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Vol. XXXVI MAY 1, 1945 No. 14

BULLETIN *of the* UNIVERSITY *of* NEW HAMPSHIRE

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The Catalogue Issue of the University
The Report of the President Issue
The Financial Report Issue
The Catalogue Issue of the Summer School
The Catalogue Issue of the Graduate School
The Catalogue Issue of Educational Films
The Bulletin Issue of the New Hampshire Alumnus
and other publications of the University of New Hampshire

Correspondence in regard to the University should be addressed to the following:

General Information, General Information
Admission, Catalogue, and Summer School, Registrar
Alumni Activities, Alumni Office
General Extension, Director of General Extension Service
Graduate School, Dean of the Graduate School
Two-Year Course in Agriculture, Office of Applied Farming
Veterans Education, Postwar Education Service

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CALENDAR

1945

JULY

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DECEMBER

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BOARD OF TRUSTEES

His Excellency, Governor Charles M. Dale, A.B., B.L., *ex officio*

President Harold W. Stoke, PH.D., *ex officio*

Andrew L. Felker, LL.D., *Commissioner of Agriculture, ex officio*

Harry D. Sawyer — Woodstock, N. H.
September 15, 1926 to June 30, 1946

Frank W. Randall, B.S., *President* — Portsmouth, N. H.
July 1, 1936 to June 30, 1948

*Ernest W. Christensen, B.S., *Secretary* — Dover, N. H.
July 1, 1940 to June 30, 1948

*Margaret D. Croghan, M.S. — Waban, Mass.
July 1, 1943 to June 30, 1947

Jeremy R. Waldron, M.S. — Portsmouth, N. H.
April 12, 1944 to June 30, 1946

Arthur E. Moreau, A.M. — Manchester, N. H.
September 14, 1944 to June 30, 1947

Laurence F. Whittemore — Pembroke, N. H.
September 14, 1944 to June 30, 1948

Harry L. Farnham, B.S. — Dover, N. H.
September 14, 1944 to June 30, 1945

Mary S. Brown — Moultonborough, N. H.
December 20, 1944 to June 30, 1947

Austin I. Hubbard, B.S. — Walpole, N. H.
December 20, 1944 to June 30, 1945

**Elected by Alumni*

OFFICERS OF ADMINISTRATION

HAROLD W. STOKE, PH.D., *President of the University*

EUGENE K. AUERBACH, M.B.A., *Alumni Secretary and Director, Bureau of Appointments**

EDWARD Y. BLEWETT, M.A., *Dean of the College of Liberal Arts*

THELMA BRACKETT, A.B., *Librarian*

GEORGE W. CASE, M.C.E., *Dean of the College of Technology and Director of the Engineering Experiment Station**

M. GALE EASTMAN, PH.D., *Dean of the College of Agriculture and Director of the Agricultural Experiment Station*

DANIEL S. EPPELSHEIMER, D.SC., *Acting Director of the Engineering Experiment Station*

HARRY M. FITZ, *Superintendent of Properties*

LEON W. HITCHCOCK, B.S., *Acting Dean of the College of Technology*

ERIC T. HUDDLESTON, B.ARCH., *Supervising Architect*

C. FLOYD JACKSON, M.S., *Director of the Biological Institute*

HAROLD I. LEAVITT, M.A., *Acting Alumni Secretary*

RAYMOND C. MAGRATH, *Treasurer*

WILLIAM A. MEDESY, M.F., *Acting Dean of Men*

BROCKWAY D. ROBERTS, M.D., *University Physician*

FRANCIS E. ROBINSON, M.A., *Assistant to the President*

EVERETT B. SACKETT, PH.D., *Registrar and Director of Admissions*

RUSSELL R. SKELTON, S.M., *Acting Director, Bureau of Appointments*

HERMON L. SLOBIN, PH.D., *Dean of the Graduate School*

HENRY B. STEVENS, A.B., *Director of the General Extension Service*

RUTH J. WOODRUFF, PH.D., *Dean of Women*

ALBERT F. YEAGER, PH.D., *Associate Director of the Biological Institute*

*On leave of absence.

THE UNIVERSITY FACULTY AND STAFFS*

STOKE, HAROLD W., *President of the University*
A.B., Marion College, 1924; A.M., University of Southern California, 1925; Ph.D., Johns Hopkins University, 1930. (1944-)

ENGELHARDT, FRED, *President of the University*
(1937- Died February 3, 1944)

BATCHELDER, LYMAN J., *Instructor Emeritus in Mechanical Engineering, Woodshop*
(1915-)

BAUER, GEORGE N., *Professor Emeritus of Mathematics*
B.S., University of Minnesota, 1894; M.S., University of Iowa, 1898; Ph.D., Columbia University, 1900. (1924-)

BISBEE, HARLAN M., *Associate Professor Emeritus of Education*
A.B., Bowdoin College, 1898; A.M., Harvard University, 1905. (1928-)

HENDERSON, OREN V., *Registrar Emeritus*
Valpariso University. (1914-)

MACFARLANE, JAMES, *Instructor Emeritus in Floriculture*
(1915-)

RICHARDS, ALFRED E., *Professor Emeritus of English*
A.B., Yale University, 1898; A.M., *ibid.*, 1900; Ph.D., University of Munich, Germany, 1904. (1912-)

RITZMAN, ERNEST G., *Research Professor Emeritus in Animal Husbandry, Agricultural Experiment Station*
B.S.A., Iowa State College, 1903; M.S. (Hon.), University of New Hampshire, 1928. (1915-)

SMITH, MELVIN M., *Associate Professor Emeritus of Chemistry*
A.B., Colby College, 1890; A.M., *ibid.*, 1893. (1917-)

ABBOTT, HELEN D., *Head Cataloguer*
A.B., Wheaton College, 1929; S.B., Simmons College, 1930; A.M., Middlebury College, 1939. (May 1, 1943-)

ABELL, MAX F., *Assistant Professor of Agricultural Economics, Assistant Agricultural Economist, Agricultural Experiment Station, and Economist, Extension Service*
B.S., Cornell University, 1914; Ph.D., *ibid.*, 1924. (1926-)

ADAMS, ELOI A., *Agricultural Agent in Strafford County*
B.S., New Hampshire College, 1918. (1919-)

*As of December 31, 1944, for the period February 1, 1943 to December 31, 1944.

AHERN, CORNELIUS J., *Agricultural Agent in Cheshire County*
B.S., University of New Hampshire, 1934. (1936-)

ALEXANDER, EDITH, *Library Assistant in Charge of the Art Division*
B.A., University of New Hampshire, 1925; M.A., Columbia University, 1928. (November 8, 1943-)

ALEXANDER, NORMAN, *Associate Professor of Economics*
B.A., University of North Dakota, 1919; M.A., *ibid.*, 1920; LL.B., Yale University, 1922; Ph.D., Columbia University, 1931. (1922-)

ALLEN, FRED E., *Assistant Professor of Veterinary Science and Veterinarian, Agricultural Experiment Station*
B.S., University of New Hampshire, 1932; D.V.M., Ohio State University, 1936. (1940-)

ANDERSON, CHARLOTTE K., *Documents Librarian*
B.A., University of Michigan, 1935; B.A. in L.S., *ibid.*, 1936 (1943-)

ANDREWS, ERMA L., *Instructor in Biology*
B.A., University of New Hampshire, 1926; M.S., *ibid.*, 1941. (1938-)

ARNOLD, KENNETH J., *Assistant Professor of Mathematics*
(July 1, 1943-March 18, 1944)

ATKINSON, EDWARD R., *Associate Professor of Chemistry*
B.S., Massachusetts Institute of Technology, 1933; Ph.D., *ibid.*, 1936. (1938-)

ATWOOD, WALLACE H., *Emergency Extension Assistant in Dairying*
Vermont State Agricultural School, 1934-35. (January 1, 1944-)

AUERBACH, EUGENE K., *Alumni Secretary and Director of the Bureau of Appointments*
B.A., University of New Hampshire, 1928; M.B.A., Harvard Graduate School of Business Administration, 1930. (1936—Military leave)

BABB, ANITA N., *Home Demonstration Agent in Rockingham County*
(1934-August 31, 1943)

BABCOCK, DONALD C., *Professor of Philosophy*
B.A., University of Minnesota, 1907; M.A., *ibid.*, 1908; S.T.B., Boston University, 1912. (1918-)

BACHELDER, JOSEPH E., JR., *Associate Professor of Sociology*
B.A., Westminster College, 1933; Ph.D., Yale University, 1937. (1936—Military leave)

BANCROFT, DOROTHEA J., *Instructor in Physical Education for Women*
B.S., University of New Hampshire, 1941; M.Ed., *ibid.*, 1943. (1943-)

BARRACLOUGH, KENNETH E., *Assistant Professor of Forestry, Forester, Extension Service, and State Supervisor, Farm Labor Program*
B.S., New York State College of Forestry, Syracuse University, 1921; M.F., Harvard University, 1940. (1926-)

BARRATT, RAYMOND W., *Instructor and Research Assistant in Botany and Horticulture, Agricultural Experiment Station* (1941-1944)

BARSTOW, CAROLINE O., *Library Assistant*
(1916-August 31, 1944)

BARTON, PHILIP S., *Associate Professor of Applied Farming*
B.S., University of New Hampshire, 1928; M.Ed., *ibid.,* 1938. (1939-)

BATCHELLER, JOSEPH D., *Assistant Professor of Speech*
A.B., Carnegie Institute of Technology, 1936; A.M., University of Minnesota, 1938; Ph.D., *ibid.,* 1942. (1944-)

BATTLES, MALCOLM H., *Assistant in Chemistry*
(February 1-March 31, 1944)

BAUER, NORMAN, *Assistant Professor of Chemistry*
B.S., University of California, 1937; M.S., University of Michigan; Ph.D., *ibid.,* 1941. (1942-)

BAXTER, HORTENSE H., *Instructor in Home Economics*
(August 9, 1943-January 31, 1944)

BEANE, DORIS, *Assistant Registrar*
A.B., Smith College, 1919; M.A., Teachers College, Columbia University, 1942. (1923-)

BECKWITH, MARION C., *Associate Professor of Physical Education for Women*
A.B., Oberlin College, 1935; M.Ed., University of New Hampshire, 1937. (1935-)

BEECHER, MYRTIS E., *Home Demonstration Agent in Hillsborough County*
Graduate, Framingham Normal School, 1919; B.S., Framingham Teachers College, 1941. (1926-)

BEGG, JEANIE, *Instructor in English and University Editor*
(1942-October 31, 1943)

BEGGS, ANN F., *Assistant Professor of Home Economics and Economist (Home Management), Extension Service*
Nasson Institute, 1913-1915; University of Chicago, 1927. (1917-)

BENEDICT, PERCY F., *Instructor in Physics*
S.B., Massachusetts Institute of Technology, 1914. (October 30, 1944-)

BENEDIKT, ELLIOT T., *Instructor in Physics*
(September 1-30, 1943)

BENNER, CONSTANCE L., *Library Assistant*
(June 15, 1943-February 5, 1944)

BENNETT, FREDERICK D., *Assistant Professor of Physics*
(1941-May 31, 1943)

BERG, HARRY D., *Assistant Professor of History*
B.A., Iowa State Teachers College, 1931; M.A., University of Iowa, 1936; Ph.D., *ibid.*, 1940. (1940—Military leave)

BERGETHON, BJÖRNAR W., *Associate Professor of Music*
B.M., Bush Conservatory of Music, 1929; A.M., Indiana University, 1935. (1939—On leave)

BERZUNZA, JULIO, *Assistant Professor of Languages*
B.A., University of Oklahoma, 1921; M.A., University of Illinois, 1923. (1928-)

BESSOM, MARGERY L., *Assistant Professor of Home Economics and Clothing Specialist, Extension Service*
B.S., Simmons College, 1932; M.A., Teachers College, Columbia University, 1943. (1943-)

BINGHAM, SYLVESTER H., *Assistant Professor of English*
A.B., Dartmouth College, 1922; A.M., Harvard University, 1929; Ph.D., Yale University, 1937. (1936-)

BLEWETT, EDWARD Y., *Dean of the College of Liberal Arts*
B.A., University of New Hampshire, 1926; M.A., Ohio State University, 1940. (1927-)

BLOOD, EDWARD J., *Instructor in Physical Education and Athletics*
B.S., University of New Hampshire, 1935. (1936—On leave)

BLOOD, PAUL T., *Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station*
B.S., New Hampshire College, 1921; M.S., University of New Hampshire, 1924. (1921-24; 1928-)

BOND, WILLIAM M., *Instructor in Mathematics*
(October 23, 1944-December 31, 1944)

BOURNE, ELIZABETH, *Club Agent in Rockingham County*
Diploma, Framingham Normal School, 1924. (1926-)

BOWEN, IRMA G., *Associate Professor of the Arts*
B.S., University of Rochester, 1925; graduate of Mechanics Institute, Rochester, New York, 1911. (1920-)

BOWLER, EDMOND W., *Professor of Civil Engineering*
S.B. in Sanitary Engineering, Massachusetts Institute of Technology, 1914. (1920-)

BOWLES, ELLA S., *University Editor*
Plymouth Normal School, 1903-05. (1943-)

BRACKETT, THELMA, *Librarian*
A.B., University of California, 1919; Certificate, California State Library, 1920. (1942-)

BRADLEY, R. CLAUDE, *Assistant Professor of Poultry Husbandry and Poultryman, Extension Service*
A.B., B.S., B.S.Educ., Central Missouri State Teachers College, 1920; M.S., Cornell University, 1921; Ph.D., *ibid.,* 1926. (1931—On leave)

BRADLEY, ROBERT F., *Assistant County Agent, Forestry, Grafton County*
B.S., University of New Hampshire, 1939. (October 30, 1944-)

BRECKENRIDGE, WALTER F., *Assistant County Agent in Forestry*
(1941-December 31, 1944)

BREEN, ROBERT E., *Graduate Assistant in Chemistry*
(1941-43)

BREON, THEODORE F., *Assistant County Agent in Forestry, Carroll County*
B.S., Pennsylvania State College, 1929. (1942-)

BRETT, WESLEY F., *Instructor in the Arts*
B.Ed., Keene Teachers College, 1937. (1942-)

BREWER, WILMA D., *Assistant Professor of Home Economics and Assistant Home Economist, Agricultural Experiment Station*
(1940-43)

BREWSTER, DOROTHY L., *Assistant Club Agent in Grafton County*
B.S., University of New Hampshire, 1941. (1943-)

BROCK, JOHN F., *Photographic Technician and Assistant in Visual Aids*
(July 1, 1942 to April 25, 1944)

BROWN, FRED H., *Master Sergeant, U.S.A., Assistant in Military Science and Tactics*
(1924-)

BROWNE, EVELYN, *Instructor in Physical Education for Women*
A.B., University of California, 1943; M.A., Teachers College, Columbia University, 1943. (1943-)

BUFFINGTON, ALBERT F., *Assistant Professor of Languages*
A.B., Bucknell University, 1928; A.M., Harvard University, 1932; Ph.D., *ibid.,* 1937. (1937-)

BUREAU, FLORENCE D., *Nurse, Hood House*
R.N., Paine Hospital, Bangor, Maine, 1934. (1944-)

BURGHOFF, DAVID A., *Instructor in Mathematics*
(November 1, 1943-March 31, 1944)

BURT, EMMA W., *Assistant University Physician*
(1942-43)

CAIN, DOROTHY F., *Library Assistant*
(February 7-June 30, 1944)

CALNAN, JOHN W., *Instructor in Physics*
(November 1-December 31, 1943)

CALVERT, ERNEST R., *Instructor in Sociology*
(First semester, 1943-44)

CAMPBELL, WILLIS C., *Research Assistant in Industrial Engineering*
B.S., New Hampshire College, 1906. (1943-)

CARLISLE, DUANE F., *Instructor in Physics*
B.S., University of New Hampshire, 1934; M.A., Wesleyan University, 1936. (1943-)

CARLISLE, WINNIFRED A., *Home Demonstration Agent in Coös County*
(1940-July 31, 1943)

CARROLL, HERBERT A., *Professor of Psychology*
A.B., Bates College, 1923; A.M., Brown University, 1928; Ph.D., Columbia University, 1930. (1941-)

CASE, GEORGE W., *Dean of the College of Technology, Director of the Engineering Experiment Station, and Professor of Mechanical Engineering*
B.S. in C.E., Purdue University, 1905; M.C.E., Cornell University, 1912. (1925—Government service)

CASSILY, HELEN E., *Club Agent in Strafford County*
B.S., University of New Hampshire, 1943. (1943-)

CASWELL, HELEN S., *Nurse, Hood House*
(1942-May 20, 1944)

CAUGHEY, ROBERT A., *Research Assistant Professor of Industrial Engineering*
(1937-June 5, 1943)

CAVANAUGH, LILLIAN V., *Nurse, Hood House*
R.N., Union Hospital, Lynn, Mass., 1933. (1942-)

CAWTHORNE, TED H., *Lieutenant Colonel, Infantry, Associate Professor of Military Science and Tactics*
(1941-August 26, 1943)

CHAPMAN, DONALD H., *Associate Professor of Geology*
B.A., University of Michigan, 1927; M.A., *ibid.*, 1928; Ph.D., *ibid.*, 1931. (1931-)

CHARLES T. BURR, *Professor of Poultry Husbandry, Poultry Husbandman, Agricultural Experiment Station, and Acting Extension Poultryman, Extension Service*
B.S., Cornell University, 1915; M.S., *ibid.*, 1938. (1928-)

CHASE, MALCOLM J., *Captain, Coast Artillery Corps, Assistant Professor of Military Science and Tactics*
(1942-November 10, 1943)

CHURCH, ELEANOR B., *Loan Librarian*
A.B., Smith College, 1932; B.S., Columbia University, 1933. (September 5, 1944-)

CLAPP, HENRY S., *Instructor in Horticulture, Assistant Horticulturist, Agricultural Experiment Station and Extension Service*
B.S., Cornell University, 1931; M.S., *ibid.*, 1939. (1931-)

COLBURN, HAZEL A., *Club Agent in Hillsborough County*
B.S., University of New Hampshire, 1935. (1935-)

COLBY, STANLEY W., *Agricultural Agent in Sullivan County*
B.S., University of New Hampshire, 1934. (1940-)

COLOVOS, NICHOLAS F., *Assistant Professor of Animal Husbandry and Assistant in Animal Husbandry, Agricultural Experiment Station*
B.S., University of New Hampshire, 1927; M.S., *ibid.*, 1931. (1928—Military leave)

CONKLIN, JAMES G., *Associate Professor of Entomology and Associate Entomologist, Agricultural Experiment Station*
B.S., Connecticut Agricultural College, 1926; M.S., University of New Hampshire, 1929; Ph.D., Ohio State University, 1941. (1931-)

CONON, OLGA, *Instructor in Economics*
(1939-August 7, 1943)

CONNOR, IRENE W., *Nurse, Hood House*
(July 1-November 30, 1943)

CONVEL, ANN EASTMAN, *Library Assistant*
(1942-February, 1944)

COPPLESTONE, WESLEY, *Assistant in Music*
(1941-1944)

CORBETT, ALAN C., *Assistant Professor of Poultry Husbandry and Assistant Poultry Pathologist, Agricultural Experiment Station*
B.S., University of Maine, 1936; M.S., *ibid.*, 1937; D.V.M., Michigan State College, 1940. (1941-)

CORTEZ, EDMUND A., *Associate Professor of Speech*
B.A., Taylor University, 1923; B.O., Asbury College, 1924; B.D., Asbury Theological Seminary, 1925; M.A., Columbia University, 1926; Ed.M., Harvard University, 1927. (1927-)

CORTEZ, EVELYN W., *Editorial Assistant*
A.B., Indiana State Normal School, 1920; M.A., Teachers College, Columbia University, 1930. (1944-)

COULTER, CHARLES W., *Professor of Sociology*
B.A., University of Toronto, 1908; B.D., Victoria College, 1909; M.A., Yale University, 1910; Ph.D., *ibid.,* 1914. (1934-)

CRECELIUS, H. GILBERT, *Instructor in Bacteriology*
B.A., University of South Dakota, 1934; M.A., *ibid.,* 1937; Ph.D., Yale University, 1941. (1941—Military leave)

CRITTENDON, LORRAINE, *Graduate Assistant in Music*
(1942-43)

CZAJKOWSKI, JANINA M., *Instructor in Home Economics*
B.S., Massachusetts State College, 1936. (1944-)

DAGGETT, ALBERT F., *Associate Professor of Chemistry*
B.S., University of New Hampshire, 1928; M.S., *ibid.,* 1930; Ph.D., Columbia University, 1934. (1928-31; 1935-)

DAGGETT, DOROTHY J., *Library Assistant*
A.B., Ohio University, 1930. (May 22, 1944-)

DAGGETT, G. HARRIS, *Assistant Professor of English*
A.B., Cornell University, 1928; M.A., *ibid.,* 1929; Ph.D., University of North Carolina, 1941. (1942-)

DALY, JOSEPH F., *Lieutenant Colonel, Infantry, Professor of Military Science and Tactics*
Burdett Business College. (August 8, 1944-)

DART, J. DORIS, *Assistant Librarian and Cataloguer*
B.A., McGill University, 1921. (1929-March 15, 1943)

DAVIS, HENRY A., *Instructor in Agricultural and Biological Chemistry and Assistant in Agricultural and Biological Chemistry, Agricultural Experiment Station*
B.S., University of New Hampshire, 1932; M.S., *ibid.,* 1934. (1932-)

DAVIS, MARION S., *Home Demonstration Agent in Sullivan County*
B.E., Keene Normal School, 1929. (1937-)

DAWSON, CHARLES O., *Assistant Professor of Civil Engineering*
B.C.E., Ohio State University, 1930; M.S., *ibid.,* 1940. (1930—Military leave)

DEGLER, CARROLL M., *Associate Professor of Economics*
A.B., University of Kansas, 1925; M.B.A., New York University, 1927. (1928-)

DEMOS, MILTIADES S., *Assistant Professor of Mathematics*
B.S., Robert College, Constantinople, Turkey, 1922; Ph.D., Harvard University, 1926. (1931-Military leave)

DEVENEAU, PHYLLIS, *Editorial Assistant*
B.A., University of New Hampshire, 1943. (1944-)

DIXEY, M. EILEEN, *Lecturer in Occupational Therapy*
(1943-44)

DOBROVOLNY, CHARLES G., *Assistant Professor of Zoology*
B.A., University of Montana, 1928; M.S., Kansas State College of Agriculture and Applied Science, 1933; Ph.D., University of Michigan, 1938. (1940-)

DONAHUE, MARIE A., *Instructor in English*
(1942-1943)

DONOVAN, EDWARD T., *Assistant Professor of Mechanical Engineering*
B.S., University of Wisconsin, 1921. (1926-Government service)

DOUGAL, ANTHONY F., *Assistant Professor of Physical Education and Athletics*
B.S., Temple University, 1933; M.A., Columbia University, 1940. (1939-Military leave)

DOUGHERTY, LAWRENCE A., *Assistant Professor of Agricultural Economics, Assistant Agricultural Economist, Agricultural Experiment Station, and Economist in Marketing, Extension Service*
B.S., Purdue University, 1921. (1930-)

DRISKO, JEANETTE L., *Assistant Cataloguer*
A.B., Colby College, 1939; B.S., Simmons College, 1940. (November 1, 1943-)

DRUMHELLER, P. FERN, *Graduate Assistant in Botany*
(1942-44)

DUNN, COLON H., *Instructor in Electrical Engineering*
(1942-44)

DUNN, STUART, *Assistant Professor of Botany and Plant Physiologist, Agricultural Experiment Station*
B.S., University of Minnesota, 1923; M.S., Iowa State College, 1925; Ph.D., University of Minnesota, 1931. (1926-)

DURIE, JOHN D., *Instructor in Physical Education and Athletics*
(1938-43)

EASTMAN, M. GALE, *Dean of the College of Agriculture and Director of the Agricultural Experiment Station*
B.S., New Hampshire College, 1913; M.S., Cornell University, 1916; Ph.D., *ibid.*, 1931. (1918-)

EGGERT, RUSSELL L., *Instructor and Research Assistant in Horticulture, Agricultural Experiment Station*
B.S., Michigan State College, 1929; M.S., *ibid.*, 1939. (1942-)

EKDAHL, ADOLPH G., *Associate Professor of Psychology*
D.M.D., Tufts College Dental School, 1912; A.B., Clark College, 1919; A.M., *ibid.*, 1920; Ph.D., Ohio State University, 1925. (1926- On leave)

ELLIOTT, WILLIAM J., *Instructor in Chemistry*
(1943-44)

ELLIS, ELIZABETH E., *Assistant Professor of Home Economics and Nutritionist, Extension Service*
B.S., Teachers College, Columbia University, 1927; M.A., *ibid.*, 1929. (1929-)

ENKE, JOSEPH W., *Assistant in Entomology and Research Chemical Assistant in Entomology, Agricultural Experiment Station*
(1942-43)

EPPELSHEIMER, DANIEL S., *Research Professor of Industrial Engineering and Acting Director, Engineering Experiment Station*
B.S., Harvard University, 1932; D.Sc., *ibid.*, 1935. (1938-)

ERIKSON, ARVAL L., *Assistant Professor of Agricultural Economics, Assistant Agricultural Economist, and Assistant to the Director, Agricultural Experiment Station*
(1940-43)

EVANS, NELL W., *Instructor in Physical Education for Women*
(1935-43)

FAIRCHILD, EDWARD L., *Assistant Professor of Industrial Engineering*
(1942-March 31, 1944)

FELKER, GRACE, *Assistant Professor of Physical Education for Women*
(1943-44)

FENTON, AUSTEN W., *Agricultural Agent in Carroll County*
B.A., University of New Hampshire, 1932. (1942-)

FIRMAN, CHARLES E., *Assistant County Agent in Hillsborough County*
(1941-December 24, 1943)

FITZ, HARRY M., *Superintendent of Properties*
(1921-)

FLANDERS, FLORENCE N., *Assistant Cataloguer*
(1942-May 15, 1943)

FLOYD, JOHN A., *Assistant Professor of Languages*
A.B., Boston University, 1928; Diplôme de Francais; Degré Supérieur, University of Dijon, France, 1929; M.A., Middlebury College, 1937. (1929-On leave)

FOGG, HEMAN C., *Demonstrator, Chemistry Department*
B.S., New Hampshire College, 1918; M.S., *ibid.,* 1920; Ph.D., University of Michigan, 1933. (1918-38, 1943-)

FOSS, EDWARD W., *Instructor in Applied Farming and Agronomy*
B.S., University of New Hampshire, 1936. (1942-)

FOULKROD, GEORGE M., *Assistant Professor of Agricultural Engineering and Assistant Agricultural Engineer, Extension Service*
B.S., Pennsylvania State College, 1919; B.S. in Agricultural Engineering, *ibid.,* 1931; M.S. in Agricultural Education, *ibid.,* 1931. (1933-)

FRENCH, JOHN S., *Instructor in Mathematics*
(July 5, 1943-December 31, 1944)

FULTON, DAWSON G., *Assistant Professor of Mathematics*
B.A., Acadia University, 1929; M.Sc., University of Michigan, 1932; Ph.D., *ibid.,* 1937. (1943-On leave)

FUNKHOUSER, JAMES A., *Associate Professor of Chemistry*
B.S., Carnegie Institute of Technology, 1925; Ph.D., Ohio State University, 1930. (1930-)

GADBOIS, IRENE L., *Instructor in English*
(1940-43)

GAGE, GEORGE W., *Major, Coast Artillery Corps, Assistant Professor of Military Science and Tactics*
(1940-August 10, 1944)

GARLAND, MARTHA L., *Instructor in Home Economics*
(1941-August 7, 1943)

GARMAN, ELIZABETH M., *Graduate Assistant in Zoology*
(1942-May 31, 1944)

GETCHELL, EDWARD L., *Professor of Mechanical Engineering*
B.S., University of Maine, 1914; E.E., *ibid.,* 1920. (1917-)

GIBBS, KENNETH E., *Club Agent in Hillsborough County*
(1925-April 17, 1943)

GIDDINGS, HORACE A., *Associate Professor of Mathematics*
B.S., University of New Hampshire, 1923; Ph.D., Massachusetts Institute of Technology, 1934. (1923-24; 1942-)

GLOVER, LEON C., *Assistant Professor of Entomology and Research Assistant in Entomology, Agricultural Experiment Station*
B.S., University of New Hampshire, 1923; M.S., *ibid.,* 1928; Ph.D., Iowa State College, 1936. (1928-)

GORDON, LURLENE A., *Library Assistant in Charge of Plant and Animal Sciences Library*
B.S., University of New Hampshire, 1941. (1942-On leave)

GRAHAM, PETER J., *Assistant in Chemistry*
(1942-February 29, 1944)

GRANT, ROBERT H., *Assistant Professor of English*
A.B., Bowdoin College, 1933; M.A., Columbia University, 1940. (1937-)

GRAY, RENA, *Home Demonstration Agent in Belknap County*
B.S., Simmons College, 1916; A.M., Columbia University, 1928. (1928-)

GREEN, ARNOLD W., *Instructor in Sociology*
A.B., Clark University, 1937; M.A., Pennsylvania State College, 1939. (February, 1944-)

GRIGAUT, PAUL L., *Associate Professor of Languages*
B. ès L., 1926; Certifié de Licence (Sorbonne); Diplômé de l'Ecole du Louvre, 1932. (1927-Government service)

GRINNELL, HAROLD C., *Associate Professor of Agricultural Economics, Assistant to the Dean, College of Agriculture, and to the Director, Agricultural Experiment Station*
B.S., Cornell University, 1921; M.S., *ibid.,* 1930; Ph.D., *ibid.,* 1941. (1932-)

HADDOCK, JAY L., *Assistant Professor of Agronomy and Agronomist, Extension Service*
(1935-April 15, 1944)

HALL, CLYDE N., *District County Agent, Extension Service*
(1933-44)

HALL, HARRY H., *Assistant Professor of Physics*
B.S., Union College, 1926; Ph.D., Harvard University, 1934. (1940-Military leave)

HALL, MARY A., *Club Agent in Cheshire County*
B.Ed., Keene Normal School, 1929. (1937-)

HALPIN, ROBERT B., *Instructor in Poultry Husbandry, Record of Performance Supervisor and Research Assistant in Poultry Husbandry, Agricultural Experiment Station*
(1941-43)

HAM, RUTH S., *Club Agent in Strafford County*
(1942-July 10, 1944)

HANSON, ARNOLD E., *Associate Professor of Industrial Education*
Ph.B., University of Wisconsin, 1926; Ph.M., *ibid.*, 1929; Ph.D., *ibid.*, 1940. (1940-)

HARTOP, WILLIAM L., JR., *Assistant in Chemistry*
(February 1-March 31, 1944)

HARTWELL, WILLIAM H., *Associate Professor of Physics*
B.S., Boston University, 1924; M.A., Wesleyan University, 1927. (1929-)

HARVEY, ERNESTINE D., *Assistant in Charge of Reserve Book Room*
A.B., William Jewell College, 1924. (July 1, 1944-)

HARVEY, LASHLEY G., *Assistant Professor of Government*
A.B., William Jewell College, 1925; A.M., Leland Stanford, Jr. University, 1930; Ph.D., Harvard University, 1942. (1938-Military leave)

HARWOOD, WILFRED T., *Library Assistant in Charge of Plant and Animal Sciences Library*
(October 1944-)

HASKELL, CHARLES B., *Instructor in Physics*
(October 23-December 31, 1944)

HATCH, CLEON H., *Assistant in Physics*
(1942-44)

HAUSLEIN, JOHN D., *Assistant Professor of Economics*
B.A., Yale University, 1916; M.A., *ibid.*, 1920. (1926-)

HAYWARD, VIRGINIA A., *Library Assistant*
(February 21, 1944-)

HENNESSY, WILLIAM G., *Professor of English*
A.B., Boston University, 1916; A.M., *ibid.*, 1924. (1923-)

HEPLER, JESSE R., *Associate Professor of Horticulture and Horticulturist in Home Gardening, Extension Service*
B.S., Pennsylvania State College, 1911; M.S., University of Wisconsin, 1922. (1917-)

HERR, CLARENCE S., *District County Agent, Extension Service*
(1928-43)

HEYWOOD, EUNICE, *State Home Demonstration Leader*
(May 1, 1943 to September 15, 1944)

HIGGINS, LEROY J., *Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station*
B.S., University of New Hampshire, 1923. (1927-28; 1929-)

HILL, HAZEL E., *Assistant Professor of Home Economics and Clothing Specialist, Extension Service*
(1928-June 12, 1943)

HILL, KATHERINE E., *Home Demonstration Agent in Coös County*
Farmington Home Economics College, 1934-36; Keene State Teachers College, 1936-38. (1943-)

HITCHCOCK, LEON W., *Acting Dean of the College of Technology and Professor of Electrical Engineering*
B.S., Worcester Polytechnic Institute, 1908. (1910-)

HOBAN, MARGARET R., *Assistant Professor and Director of Physical Education for Women*
(1931-43)

HODGDON, ALBION R., *Associate Professor of Botany and Plant Taxonomist, Agricultural Experiment Station*
B.S., University of New Hampshire, 1930; M.S., *ibid.*, 1932; Ph.D., Harvard University, 1936. (1930-32; 1936-)

HOITT, SAMUEL W., *Assistant to the Director, Extension Service*
B.S., University of New Hampshire, 1928; M.S., *ibid.*, 1931. (1929-)

HOLDEN, EDWARD W., *Agricultural Agent in Merrimack County*
B.S., University of Maine, 1923. (1923-)

HOLLEY, WINFRED D., *Assistant Professor of Floriculture and Superintendent of Greenhouses*
B.S., Texas Technological College, 1938; M.S., Michigan State College, 1940. (1940-)

HOLMES, CLIFFORD J., *Instructor in Physics*
(September 1, 1943-March 31, 1944)

HOLMES, G. ALLEN, *Assistant Professor of Applied Farming*
B.S., University of New Hampshire, 1938. (1940-)

HOLMES, JOHN C., *Research Assistant in Agricultural Economics, Agricultural Experiment Station*
A.B., Dartmouth College, 1913; S.B. in Mech. Engr., Massachusetts Institute of Technology, 1915. (1939-)

HOPKINS, JANET E., *Serials Cataloguer*
A.B., Syracuse University, 1941; B.S. in L.S., *ibid.*, 1942. (July 17, 1944-)

HOSKEN, DEAN, *Instructor in Agricultural Economics and Research Assistant in Agricultural Economics, Agricultural Experiment Station*
(1942-43)

HOWE, ARTHUR F., *Instructor in Bacteriology*
(1940-43)

HOWES, HORACE L., *Professor of Physics*
B.S., Syracuse University, 1905; Ph.D., Cornell University, 1915. (1918-)

HUDDLESTON, ERIC T., *Professor of Architecture and Supervising Architect of the University*
B.Arch., Cornell University, 1910. (1914-)

HUDON, LILLIAM B., *Manager of the University Dining Hall and Instructor in Home Economics*
(1929-43)

HUNSBERGER, WARREN S., *Assistant Professor of Economics*
A.B., Yale College, 1933; Ph.D., Yale University, 1937. (1940-On leave)

HUNT, HENRY, *Major, Infantry, Assistant Professor of Military Science and Tactics*
B.S., University of New Hampshire, 1927. (1940-April 19, 1944)

IDDLES, HAROLD A., *Professor of Chemistry*
B.S., Michigan State College, 1918; M.S., University of Iowa, 1921; Ph.D., Columbia University, 1925. (1929-)

IFFT, JOHN D., *Assistant Professor of Zoology*
(July 21, 1943-August 31, 1944)

IRETON, SHIRLEY R., *Acting Club Agent in Sullivan County*
B.E., Keene Teachers College, 1942. (1944-)

JACKSON, C. FLOYD, *Director of the Biological Institute and Professor of Zoology*
B.A., DePauw University, 1905; M.S., Ohio State University, 1907. (1908-)

JACKSON, FREDERICK D., *Associate Professor of Electrical Engineering and University Radio Engineer*
B.S., Pennsylvania State College, 1920; E.E., *ibid.*, 1939. (1924-On leave)

JACKSON, MARGUERITE S., *Assistant in Home Economics*
(February-May, 1944)

JEWETT, IRENE E., *Home Demonstration Agent in Cheshire County*
B.E., Keene Normal School, 1932. (1934-)

JOHNSON, ARTHUR W., *Professor of Business Administration*
B.B.A., College of Business Administration, Boston University; M.B.A., *ibid.*, 1929. (1920-)

JOHNSON, GIBSON R., *Assistant Professor of History*
A.B., Muskingum College, 1916; M.A., Princeton University, 1920; Ph.D., University of Edinburgh, 1922. (1932-)

JOHNSON, LAWRENCE A., *Assistant Professor of Dairy Husbandry and Dairyman, Extension Service*
B.S., Michigan State College, 1936; M.S., Rutgers University, 1939. (1938-)

JOHNSON, WILLIAM A., *Assistant County Agent in Forestry, Grafton County*
(1941-August 3, 1944)

JONES, HELEN M., *Assistant in Psychology*
(1942-43)

JONES, HOWARD R., *Associate Professor of Education and Assistant to the Dean, College of Liberal Arts*
(1940-August 21, 1943)

JONES, RICHARD C., *Research Assistant in Botany, Agricultural Experiment Station*
A.B., Dartmouth College, 1938; M.S., University of New Hampshire, 1943; Ph.D., State College of Washington, 1944. (1944-)

JORDAN, ALBERT D., *Instructor in Physics*
(October 18, 1943-March 31, 1944)

JUSTICE, CHARLES M., *Assistant Professor of Physical Education and Athletics*
B.A., University of Nebraska, 1932; M.A., *ibid.*, 1940. (1937-Military leave)

KALIJARVI, THORSTEN V., *Professor of Government*
A.B., Clark University, 1920; A.M., *ibid.*, 1923; Ph.D., University of Berlin, 1935. (1923-On leave)

KARDOS, LOUIS T., *Assistant Professor of Agronomy and Assistant Agronomist, Agricultural Experiment Station*
B.S., Rutgers University, 1932; M.S., *ibid.*, 1934; Ph.D., *ibid.*, 1937. (1943-)

KAUPPINEN, TENHO S., *Instructor in Mechanical Engineering*
B.S., University of New Hampshire, 1939. (1939-)

KEENER, HARRY A., *Assistant Professor of Animal and Dairy Husbandry and Assistant Dairy Husbandman, Agricultural Experiment Station*
B.S., Pennsylvania State College, 1936; M.S., West Virginia University, 1938; Ph.D., Pennsylvania State College, 1941. (1941-)

KEESEY, RAY E., *Instructor in English*
(1940-February 28, 1943)

KELLY, RUTH B., *Instructor in Psychology*
A.B., Radcliffe College, 1933. (1942-)

KERR, SARA, *State Home Demonstration Leader*
B.S., Teachers College, Columbia University, 1921; M.A., *ibid.*, 1928. (1944-)

KICHLINE, WILLIAM L., *Assistant Professor of Mathematics*
B.A., Lehigh University, 1924; M.S., *ibid.*, 1928. (1931-)

KIMBALL, MARION P., *Assistant State Farm Labor Supervisor Women's Land Army*
(October 11, 1943-December 16, 1943)

KING, ALICE MELENDY, *Home Demonstration Agent-at-Large, Extension Service*
B.S., University of New Hampshire, 1928; M.A., Teachers College, Columbia University, 1944. (1929-38; 1942-)

KINGSBURY, FRANK W., *Club Agent in Coös County*
(1942-March 20, 1943)

KLEWANSKY, JULIUS, *Instructor in Mathematics*
(October 1, 1943-March 31, 1944)

KLINE, DOROTHY E., *Instructor in Music*
B.M., DePauw University, 1941; M.M., Eastman School of Music, 1942. (1942-)

LABOMBARDE, WINFORD E., JR., *First Lieutenant, Infantry, Assistant Professor of Military Science and Tactics*
LaSalle Military Academy. (August 16, 1944-)

LADD, IRENE L., *Instructor in Economics*
B.E., University of California, Los Angeles, 1932; M.C.S., Boston University, 1942. (1943-)

LAMBE, THOMAS W., *Instructor in Civil Engineering*
(1942-43)

LAPERRIERE, BERTRANDE M., *Urban War Food Assistant-at-Large*
B.S. in Home Ec., Rivier College, 1944. (1944-)

LASH, MABEL A., *Home Demonstration Agent in Merrimack County*
B.S., Simmons College, 1933. (1935-)

LATIMER, L. PHELPS, *Assistant Professor of Horticulture and Assistant Horticulturist, Agricultural Experiment Station*
B.S., University of California, 1921; M.S., *ibid.*, 1922; Ph.D., *ibid.*, 1926. (1926-)

LATON, THOMAS J., *Assistant Professor of Mechanical Engineering*
(1907-Died May 18, 1944)

LEAVITT, HAROLD, *Associate Professor of Physics and Acting Alumni Secretary*
B.S., New Hampshire College, 1921; M.Ed., *ibid.,* 1936; M.A., Columbia University, 1940. (1928-)

LESSARD, FEDORA L., *Supervising Nurse*
(1934-43)

LEVCOWICH, TATIANA, *Instructor in Home Economics and Research Assistant, Agricultural Experiment Station*
B.S., Rhode Island State College, 1936; M.S., *ibid.,* 1939. (1942-)

LEWIS, DANIEL C., JR., *Associate Professor of Mathematics*
A.B., Haverford College, 1926; A.M., Harvard University, 1928; Ph.D., *ibid.,* 1932. (1939-On leave)

LEWIS, WALTER R., *Graduate Assistant in Agricultural and Biological Chemistry*
(1941-43)

LINDQUIST, JENNIE D., *Reference Librarian and Consultant in Work with Young People*
(September 1, 1943-)

LINNELL, ROBERT H., *Assistant in Chemistry*
(February 1-March 31, 1944)

LISLE, RUSSELL B., *Assistant in Chemistry*
(February 1-March 31, 1944)

LITTLEFIELD, RALPH B., *Assistant Professor of Agronomy and Agronomist, Extension Service*
B.S., University of New Hampshire, 1927. (1940-)

LOUGHLIN, MARGARET E., *Assistant in Agricultural and Biological Chemistry, Agricultural Experiment Station*
A.B., Regis College, 1942. (1944-)

LOVELY, JOSEPH L., *Assistant in Photo-Visual Work*
(May 25, 1944-July 31, 1944)

LUNDHOLM, CARL, *Director and Professor of Physical Education and Athletics*
B.S., New Hampshire College, 1921; M.A., Columbia University, 1939. (1928-)

MAGRATH, RAYMOND C., *Treasurer*
Burdett Business College, 1916. (1920-)

MANCHESTER, JOHN W., *Editorial Assistant*
(January 10, 1944-August 5, 1944)

MANTON, ROBERT W., *Professor of Music*
Harvard University, 1918. (1923-)

MARSH, CHARLES S., *Club Agent in Coös County*
(April 5, 1943-November 30, 1944)

MARSTON, PHILIP M., *Associate Professor of History*
B.A., University of New Hampshire, 1924; M.A., *ibid.*, 1927. (1924-)

MARTIN, ROBERT L., *Circulation Librarian*
(1942-February 15, 1944)

MAYOR, ROWLAND H., *Assistant in Chemistry*
(1942-April 30, 1944)

MCCOOEY, ALICE C., *Nurse, Hood House*
(1943-May 1944)

MCDANIEL, RUTH E., *Instructor in Music*
B.S., Eastman School of Music, University of Rochester, 1942. (1942-)

MCDONOUGH, JOHN H., *First Lieutenant, Infantry, Assistant Professor of Military Science and Tactics*
Philadelphia Business College. (April 1, 1944-)

MCGEE, ADELYN G., *Nurse*
(1939-May 31, 1943)

MCGRAIL, THOMAS H., *Assistant Professor of English*
B.A.. University of New Hampshire, 1927; M.A., Cornell University, 1931; Ph.D., *ibid.*, 1936. (1927-Military service)

MCKENZIE, EDITH M., *Instructor in Economics*
A.B., Mt. Holyoke College, 1932; M.C.S., Boston University, 1942. (1942-)

MCLAUGHLIN, DOROTHY M., *Urban Emergency War Food Assistant*
B.S., University of New Hampshire, 1936. (1944-)

MCLAUGHLIN, HELEN F., *Professor of Home Economics*
B.A., University of Wisconsin, 1909; B.S., Simmons College, 1915; M.A., Teachers College, Columbia University, 1925. (1917-)

MEDESY, WILLIAM A., *Assistant Professor of Forestry and Acting Dean of Men*
B.S., Purdue University, 1931; M.F., Yale University, 1933. (1940-)

METCALF, CLARENCE W., *Captain, Infantry, Assistant Professor of Military Science and Tactics*
(1941-April 22, 1944)

MEYERS, THEODORE R., *Associate Professor of Geology*
B.A., Ohio State University, 1926; M.A., *ibid.*, 1929. (1927-)

MILLS, KATHRYN A., *Assistant State Farm Labor Supervisor, Women's Land Army*
(May 8, 1944-November 18, 1944)

MILLS, MARIAN E., *Assistant Professor of Botany*
B.S., Teachers College, Columbia University, 1917; M.A., *ibid.*, 1920. (1927-)

MITCHAM, SHELBY A., *Assistant Professor of Home Economics*
(1941-44)

MOCHEL, MARGUERITE, *Instructor in Physical Education for Women*
(1942-43)

MOODY, MARION R., *Assistant in the Arts*
B.S., University of New Hampshire, 1935. (1942-)

MOORE, GEORGE M., *Associate Professor of Zoology*
A.Sc., University of the City of Toledo, 1926; B.S., Otterbein College, 1928; M.S., University of Michigan, 1932; Ph.D., *ibid.*, 1938. (1944-)

MOORE, HERBERT C., *Associate Professor of Dairy Husbandry and Assistant Dairy Husbandman, Agricultural Experiment Station*
B.S., Purdue University, 1923; M.S., University of Minnesota, 1925. (1928-)

MOORE, MARION B., *Club Agent in Merrimack County*
B.S. in Educ., State Teachers College, Framingham, Mass., 1930. (1938-)

MORGAN, C. RICHARD, *Assistant in Chemistry*
(1941-August 31, 1943)

MORROW, KENNETH S., *Professor of Dairy Husbandry and Dairy Husbandman, Agricultural Experiment Station*
B.S., University of Minnesota, 1918; M.S., *ibid.*, 1925. (1934-)

MORSE, WALLACE J., *Research Assistant in Entomology, Agricultural Experiment Station*
B.S., University of New Hampshire, 1943. (1943-)

MOSS, ROBERT H., *Research Assistant in Industrial Engineering*
B.S., University of New Hampshire, 1943. (1943-)

MOULTON, VERNA E., *Assistant Professor of Home Economics*
B.S., University of New Hampshire, 1938; M.Ed., *ibid.*, 1940. (1938-)

MURPHY, ELIZABETH J., *Assistant in Zoology*
(1942-August, 1944)

NARBUT, JOSEPH E., *Staff Sergeant, Detached Enlisted Men's List, U.S.A., Assistant in Military Science and Tactics*
(1941-September 24, 1943)

NASON, HARRIET B., *Supervisor, Hood House*
R.N., Wentworth Hospital, Dover, N. H., 1935. (1942-)

NASVIK, HARLAND P., *Assistant Professor of Photography and in Charge of Photo-Visual Service*
B.A., Luther College, 1931. (1940-On leave)

NEVILLE, JOHN P., *Assistant in Charge of Radio Service*
(1935-43)

NORTHBY, ARWOOD S., *Assistant to the President*
(1939-September 30, 1944)

NULSEN, WILLIAM B., *Associate Professor of Electrical Engineering*
B.S., California Institute of Technology, 1918; M.S., University of New Hampshire, 1930. (1926-)

NYE, EDWIN P., *Instructor in Mechanical Engineering*
(1942-June 10, 1944)

O'BRIEN, DANIEL A., *Agricultural Agent in Coös County*
Cornell University, 1913. (1920-)

O'CONNELL, ELIAS M., *Instructor in Mechanical Engineering, Forge and Welding Shop*
Graduate, Wentworth Institute, course in forging, hardening and tempering, 1923; Graduate, two-year course in pattern making, *ibid.*, 1925. (1926-)

O'KANE, WALTER C., *Professor of Economic Entomology and Entomologist, Agricultural Experiment Station*
B.A., Ohio State University, 1897; M.A., *ibid.*, 1909; D.Sc. (hon.), *ibid.*, 1932. (1909-)

OLSON, MARGARET L., *Assistant in Music*
B.M., New England Conservatory of Music, 1943. (1943-)

OLSSON, GUNNAR, *District County Agent, Extension Service*
B.A., New Hampshire College, 1922. (1944-)

ONGLEY, PHYLLIS, *Instructor in Physical Education for Women*
B.S., Sargent College of Physical Education, Boston University, 1944. (1944-)

OWEN, MARGARET, *Order Librarian*
B.A., Mount Holyoke College, 1919. (1943-)

PARKER, CLIFFORD S., *Professor of Languages*
A.B., Harvard University, 1912; A.M., *ibid.*, 1914; Ph.D., Columbia University, 1925. (1931-)

PARTRIDGE, ALLAN B., *Assistant Professor of History*
A.B., Clark University, 1922; A.M., *ibid.*, 1923. (1925-)

PEARL, HENRY F., *Instructor in Physics*
(July 1, 1943-March 31, 1944)

PEART, H. PATRICIA, *Library Assistant in Charge of the Art Division*
(1941-May 5, 1943)

PEPOON, LUCILE, *Assistant Professor of Home Economics*
B.S., University of Wyoming, 1926; M.S., University of Nebraska, 1937. (1939-)

PERCIVAL, GORDON P., *Assistant Professor of Agricultural and Biological Chemistry and Assistant Chemist in Agricultural and Biological Chemistry, Agricultural Experiment Station*
B.S., Massachusetts Agricultural College, 1924; M.S., *ibid.*, 1926. (1926-)

PERKINS, DONALD M., *Assistant Professor of Mathematics*
B.S., University of New Hampshire, 1931; M.S., *ibid.*, 1933. (1931-)

PERRETON, ARNOLD, *Assistant Professor of Architecture*
B.Arch., Carnegie Institute of Technology, 1927; M. Arch., Harvard University, 1940. (1928-On leave)

PHILLIPS, THOMAS G., *Professor of Agricultural and Biological Chemistry and Chemist, Agricultural Experiment Station*
B.S., Ohio State University, 1912; M.S., *ibid.*, 1913; Ph.D., University of Chicago, 1918. (1925-)

PHIPPS, ROBERT H. K., *Assistant County Agent in Forestry, Coös County*
B.S., University of New Hampshire, 1931. (1942-)

PIERCE, EVERETT W., *Agricultural Agent in Hillsborough County*
B.S., Cornell University, 1923. (1923-)

PIERCE, HAROLD E., *Instructor in Physics*
(November 1, 1943-March 31, 1944)

POMEROY, HELEN E., *Assistant Club Agent in Hillsborough County*
(June 7, 1943-December 31, 1944)

PRINCE, FORD S., *Professor of Agronomy and Agronomist, Agricultural Experiment Station*
B.S., University of Illinois, 1913. (1925-)

PRINCE, RALPH N., *Textile Research Fellow, Engineering Experiment Station*
B.S., University of Maine, 1932. (1943-)

PURINGTON, JAMES A., *Agricultural Agent in Rockingham County*
B.S., New Hampshire College, 1916; M.S., Massachusetts Agricultural College, 1920. (1920-)

PURINTON, HELEN J., *Assistant Professor of Agricultural and Biological Chemistry and Assistant Chemist, Agricultural Experiment Station*
B.S., University of Miami, 1937; M.S., Pennsylvania State College, 1940; Ph.D., Purdue University, 1943. (1943-)

RABETHGE, PRISCILLA, *Specialist in Recreation*
(April to June and October to December, 1944)

RAWLINGS, CECIL O., *Assistant Professor of Horticulture and Horticulturist, Extension Service*
B.S., University of Illinois, 1925. (1930-)

RECORD, MASON T., *Instructor in Sociology*
(1941-43)

RETTIG, HAZEL W., *Instructor in Physical Education for Women*
B.S., Arnold College of Health and Physical Education, 1940. (1944-)

REYNOLDS, JOHN H., *Instructor in History*
(1942-May 15, 1944)

RICE, UNA A., *Home Demonstration Agent in Grafton County*
B.S., Teachers College, Columbia University, 1927; A.M., *ibid.*, 1942. (1929-)

RICH, AVERY E., *Club Agent in Grafton County*
(1941-May 20, 1943)

RICHARDS, MATHIAS C., *Assistant Professor of Botany and Plant Pathologist, Agricultural Experiment Station*
B.S., Utah State Agricultural College, 1932; Ph.D., Cornell University, 1938. (1941-)

RICHARDSON, EDYTHE T., *Assistant Professor of Zoology*
B.S., New Hampshire College, 1922; M.S., University of New Hampshire, 1924. (1922-)

RINGROSE, RICHARD C., *Assistant Professor of Poultry Husbandry and Assistant Poultry Husbandman, Agricultural Experiment Station*
B.S., Cornell University, 1932; Ph.D., *ibid.*, 1936. (1942-)

ROBERTS, BROCKWAY D., *University Physician*
B.S., University of Chicago, 1925; M.D., University of Illinois College of Medicine, 1934. (1941-)

ROBERTS, JOHN E., *Assistant in Chemistry*
(1942-February 29, 1944)

ROBINSON, EARL P., *County Agent Leader in the Extension Service*
B.S., Michigan Agricultural College, 1907. (1919-)

ROBINSON, FRANCIS E., *Assistant to the President*
B.A., University of New Hampshire, 1931; M.A., *ibid.*, 1933. (November 10, 1944-)

ROMSTAD, CAMILLA, *Editorial Assistant in the General Extension Service and Agricultural Experiment Station*
(1942-August 31, 1943)

ROPER, ELIZABETH R., *Club Agent in Carroll County*
B.A., University of New Hampshire, 1928. (1928-)

ROSEN, MYRON J., *Graduate Assistant in Chemistry*
(1941-43)

ROSSELL, MARGARET, *Graduate Assistant in History and Assistant to the House Director, Congreve Hall*
(1942-February 5, 1944)

RUDD, HERBERT F., *Professor of Philosophy*
A.B., Central College, Iowa, 1900; B.D., University of Chicago, 1903; M.A., *ibid.*, 1913; Ph.D., *ibid.*, 1914. (1922-)

SACKETT, EVERETT B., *Registrar, Director of Admissions, and Associate Professor of Education*
B.A., Hamline University, 1923; M.A., University of Minnesota, 1925; Ph.D., Columbia University, 1931. (1938-)

SACKETT, MARTHA R., *Instructor in Photography*
B.A., University of Minnesota, 1923; Clarence H. White School of Photography, 1936-37. (1942-)

SANBORN, MARY L., *Assistant State Club Leader, Extension Service*
Oread Institute, Worcester, 1904. (1915-)

SAUER, GEORGE H., *Assistant Professor of Physical Education and Athletics*
B.S., University of Nebraska, 1934; M.A., Columbia University, 1941. (1937-Military leave)

SCHAEFER, PAUL E., *Assistant Professor of Zoology and Assistant to the Dean, College of Liberal Arts*
A.B., Bethany College, 1926; M.S., Ohio State University, 1931; Ph.D., *ibid.*, 1936. (1941-)

SCHEIER, EDWIN, *Instructor in Pottery*
Art-Students League, 1928-30; New York School of Industrial Art, 1929-31. (1940-)

SCHEIER, MARY, *Instructor in Pottery*
(March 1, 1943-August 31, 1944)

SCHOEDINGER, PAUL S., *Assistant Professor of English*
A.B., Princeton University, 1920; M.A., Ohio State University, 1921; Ph.D., Yale University, 1940. (1926-On leave)

SCHOOLCRAFT, JAMES T., *Assistant Professor of Languages*
B.S., Union College, 1923; Abgangs-Zeugnis, Heidelberg University, 1924; A.M., Columbia University, 1926. (1936-)

SCUDDER, HAROLD H., *Professor of English*
B.S., Dartmouth College, 1903. (1913-)

SEIBERLICH, JOSEPH, *Research Assistant Professor of Industrial Engineering*
Diplom Ingenieur, Technical University, Karlsruhe, Germany, 1924; Doctor Ingenieur, *ibid.,* 1928. (1941-)

SHANAHAN, ARTHUR J., *Instructor in Bacteriology*
B.S., Holy Cross College, 1941; M.S., University of New Hampshire, 1943. (1942-)

SHAW, FRANKLIN J., *Assistant Professor of Psychology*
A.B., University of Illinois, 1938; M.A., University of Michigan, 1939; Ph.D., University of Iowa, 1943. (1944-)

SHEEHAN, ELEANOR L., *Instructor in Zoology*
B.S., University of New Hampshire, 1930; M.S., *ibid.,* 1931. (1930-31; 1933-On leave)

SHIMER, STANLEY R., *Associate Professor of Agricultural and Biological Chemistry and Assistant Chemist, Agricultural Experiment Station*
B.S., Muhlenberg College, 1918; M.S., Pennsylvania State College, 1923. (1924-)

SICILIAN, THERESA A., *Graduate Assistant in Bacteriology*
B.S., Rhode Island State College, 1940. (1943-)

SKARET, JOHN O., *Sergeant, Assistant in Military Science and Tactics*
B.A., Luther College, 1933. (June 30, 1943-)

SKELTON, RUSSELL R., *Associate Professor of Civil Engineering and Acting Director, Bureau of Appointments*
B.S. in Civil Engineering, Purdue University, 1923; C.E., *ibid.,* 1934; S.M. in Engineering, Harvard University, 1939. (1928-)

SLANETZ, LAWRENCE W., *Associate Professor of Bacteriology and Bacteriologist, Agricultural Experiment Station*
B.S., Connecticut State College, 1929; Ph.D., Yale University, 1932. (1932-)

SLEEPER, LORA E., *Emergency War Food Assistant*
B.S., New Hampshire College, 1922. (1944-)

SLOBIN, HERMON L., *Dean of the Graduate School and Professor of Mathematics*
A.B., Clark University, 1905; Ph.D., *ibid.,* 1908. (1919-)

SMITH, DONALD W., *Assistant in Visual Aids*
(1939-April 30, 1943)

SMITH, EDWIN K., *Colonel, Coast Artillery Corps, Professor of Military Science and Tactics*
(1938-August 31, 1943)

SMITH, GRACE H., *Home Demonstration Agent in Strafford County*
B.S., Cornell University, 1921. (1933-)

SMITH, HARRY W., *Professor of Economics*
A.B., Hamilton College, 1908; A.M., *ibid.,* 1912; A.M., Columbia University, 1920. (1920-Government service)

SMITH, LUCINDA P., *Associate Professor of English*
A.B., Colby College, 1901; M.A., Boston University, 1934. (1919-)

SMITH, MARJORIE, *Instructor in Geography*
B.S., Peabody College, 1930; M.A., *ibid.,* 1935. (November 1, 1943-December 31, 1944)

SMITH, ROYAL W., *Agricultural Agent in Belknap County*
B.S., University of New Hampshire, 1928. (1928-)

SMITH, RUTH L., *Home Demonstration Agent in Carroll County*
B.S., University of New Hampshire, 1938. (1939-)

SMITH, TODD O., *Assistant Professor of Agricultural and Biological Chemistry and Associate Chemist in Agricultural and Biological Chemistry, Agricultural Experiment Station*
A.B., Indiana University, 1910; M.S., New Hampshire College, 1917. (1910-)

SMITH, WILLIAM W., *Assistant Professor of Horticulture and Research Assistant in Horticulture, Agricultural Experiment Station*
B.S., University of New Hampshire, 1924; M.S., *ibid.,* 1929; Ph.D., Michigan State College, 1935. (1936-On leave)

SNOW, HERBERT H., *Football Coach*
(September 18-November 18, 1944)

SOLT, MARVIN R., *Associate Professor of Mathematics*
B.S., Lehigh University, 1918; M.S., *ibid.,* 1925. (1926-)

SPITZ, HILLEL, *Instructor in Physics*
(October 1, 1943-March 31, 1944)

SQUIBB, MARGARET, *Assistant Club Agent in Merrimack County*
A.B., Bryn Mawr College, 1941; B.S., University of New Hampshire, 1943. (1943-)

STARKE, RAYMOND R., *Professor of Hotel Administration*
A.B., Boston University, 1921; A.M., Harvard University, 1926. (1921-24; 1926-)

STEMPIN, CARL W., *Instructor in Physics*
(1942-May 16, 1943)

STEVENS, CLARK L., *Professor of Forestry and Forester, Agricultural Experiment Station*
B.S., New Hampshire College, 1917; M.F., Yale University, 1926; Ph.D., *ibid.*, 1930. (1919-)

STEVENS, HENRY B., *Director of the General Extension Service*
A.B., Dartmouth College, 1912. (1918-)

STEWART, GLENN W., *Instructor in Geology*
B.S., University of New Hampshire, 1935; M.S., Syracuse University, 1937. (1938-39; 1941-Government service)

STICHT, JOHN H., *Instructor in Geology*
(1942-October 2, 1943)

STIMSON, RUTH G., *Home Demonstration Agent in Rockingham County*
B.S., University of New Hampshire, 1940; M.Ed., *ibid.*, 1944; (1942-)

STOLWORTHY, E. HOWARD, *Associate Professor of Mechanical Engineering*
B.S., Tufts College, 1922. (1922-)

STOWE, A. MONROE, *Professor of Education*
Ph.B., Northwestern University, 1903; A.M., *ibid.*, 1904; A.M., Harvard University, 1905; Ph.D., Columbia University, 1909. (1934-)

SWAIN, LEWIS C., *Assistant Professor of Forestry, and Acting Extension Forester*
B.S., New Hampshire College, 1918; M.F., Harvard University, 1939. (1927-)

SWANSON, C. LOYAL W., *Assistant Professor of Agronomy and Soil Survey Assistant, Agricultural Experiment Station*
B.A., Coe College, 1933; M.S., Iowa State College, 1938; Ph.D., *ibid.*, 1941. (1941-Military leave)

SWASEY, HENRY C., *Associate Professor of Physical Education and Athletics*
B.S., Amherst College, 1915; M.S., Indiana University, 1941. (1921-)

SWEET, PAUL C., *Associate Professor of Physical Education and Athletics*
B.S., University of Illinois, 1923; M.A., University of Southern California, 1941. (1924-)

TAYLOR, FREDERICK W., *Director of the Agricultural Service Departments of the College of Agriculture*
B.S., Ohio State University, 1900. (1903-)

TEERI, ARTHUR E., *Assistant Professor of Agricultural and Biological Chemistry and Assistant Chemist, Agricultural Experiment Station*
B.S., University of New Hampshire, 1937; M.S., *ibid.,* 1940; Ph.D., Rutgers University, 1943. (1938-40, 1943-)

THOMAS, GEORGE R., *Associate Professor of the Arts*
B.Arch., Carnegie Institute of Technology, 1930. (1930-)

THUT, I. N., *Associate Professor of Education, and Associate Director, Bureau of Appointments*
B.S., College of Wooster, 1929; M.Ed., University of Buffalo, 1938; Ph.D., Ohio State University, 1940. (1941-)

TIRRELL, LORING V., *Professor of Animal Husbandry*
B.S., Massachusetts Agricultural College, 1920. (1921-25; 1930- Military leave)

TONKIN, JOHN C., *Instructor in Mechanical Engineering, Machine Shop*
(1910-12; 1924-On leave)

TORAN, NESTOR E., *Instructor in Mechanical Engineering, Machine Shop*
Wentworth Institute, 1938-39. (October 25, 1943-)

TORGESEN, JOHN L., *Assistant Professor of Chemistry*
B.S., University of Idaho, 1935; M.S., *ibid.,* 1937; Ph.D., Columbia University, 1942. (1941-)

TOWLE, CARROLL S., *Associate Professor of English*
A.B., Bowdoin College, 1922; Ph.D., Yale University, 1933. (1931-)

TOWLE, DOROTHY S., *Assistant Extension Editor*
B.A., University of Texas, 1923; A.M., Yale University, 1928. (1944-)

TRITT, CHARLES W., *Instructor in Music*
B.M., DePauw University, 1938; M.Ed., University of New Hampshire, 1942. (1940-Military leave)

TUXBURY, FRANCIS V., *Acting Club Agent in Grafton County*
Albany Business College, 1908-09. (1944-)

TYLER, RUTH V., *Clinic Nurse, Laboratory and X-ray Technician*
Boston Institute for Laboratory Technicians, 1939; R.N., Boston City Hospital, 1943. (July, 1943-)

TYRRELL, DORIS E., *Associate Professor of Secretarial Studies*
B.S., University of Minnesota, 1926; M.A., *ibid.,* 1932. (1938-)

WADLEIGH, CLARENCE B., *State Club Leader, Extension Service*
B.S., New Hampshire College, 1918. (1918-19; 1920-)

WALLER, ERNEST F., *Associate Professor of Poultry Husbandry and Poultry Pathologist, Agricultural Experiment Station*
D.V.M., Iowa State College, 1931; M.S., *ibid.*, 1939. (1941-)

WALSH, JOHN S., *Associate Professor of Languages*
A.B., Harvard University, 1915; M.A., Boston University, 1928. (1922-)

WARFEL, HERBERT E., *Instructor in Zoology*
(1939-June 30, 1943)

WARREN, HAROLD H., *Assistant in Chemistry*
(February 1-March 23, 1944)

WARREN, RICHARD, *County Agent-at-Large*
B.S., M.S., Cornell University, 1935. (1944-)

WASHBURN, EMILY, *Periodicals Librarian*
(1931-33; 1935-March 1, 1943)

WEAVER, RICHARD L., *Associate Professor of Biology and Specialist in Conservation, Extension Service*
(1942-September 11, 1943)

WEBBER, LAURANCE E., *Research Assistant Professor of Industrial Engineering*
B.S., University of New Hampshire, 1934; M.E., *ibid.*, 1940. (1937-)

WEBSTER, ROBERT G., *Assistant Professor of English*
B.A., University of New Hampshire, 1926; M.A., *ibid.*, 1930. (1927-)

WESTON, MARION P., *Assistant Club Agent in Rockingham County*
Keene Teachers College, 1941. (1944-)

WESTON, RUTH C., *Club Agent in Belknap County*
B.A., New Hampshire College, 1921. (1929-)

WHELAN, PHILIP M., *Sergeant, U.S.A., Assistant in Military Science and Tactics*
(1942-)

WHIPPEN, EDNA C., *Acting Club Agent in Sullivan County*
(July 12, 1943-February 12, 1944)

WHIPPEN, NORMAN F., *Assistant State Farm Labor Supervisor*
B.S., New Hampshire College, 1918. (1920-23; 1928-)

WILKINS, DORIS F., *Instructor in the Arts*
O.T.R., Boston School of Occupational Therapy, 1923. (1944-)

WILSON, HOWARD L., *Graduate Assistant in Chemistry*
(1941-43)

WILSON, W. ROSS, *Agricultural Agent in Grafton County*
B.S., Cornell University, 1912. (1912-)

WOODRUFF, RUTH J., *Dean of Women and Associate Professor of Economics*
A.B., Bryn Mawr, 1919; A.M., *ibid.,* 1920; Ph.D., Radcliffe, 1931. (1931-)

WOODWORTH, HARRY C., *Professor of Agricultural Economics, Agricultural Economist, Agricultural Experiment Station, and Economist, Planning, Extension Service*
B.S., University of Illinois, 1909; M.S., Cornell University, 1916. (1921-)

WOOLCOCK, IRIS, *Photographer*
(1944-)

WOOSTER, CAROLINE S., *Instructor in Physical Education for Women*
Sargent School for Physical Education, 1926; B.S., University of New Hampshire, 1934. (1932-35, 1939-40, 1942-)

WORK, MARY E., *Instructor in Mathematics*
(October 20, 1942-June 30, 1943)

YALE, WILLIAM, *Assistant Professor of History*
Ph.B., Sheffield Scientific School, Yale University, 1910; M.A., University of New Hampshire, 1928. (1928-Government service)

YEAGER, ALBERT F., *Professor of Horticulture, Horticulturist, Agricultural Experimental Station, and Associate Director of the Biological Institute*
B.S., Kansas State College, 1912; M.S., Oregon Agricultural College, 1916; Ph.D., Iowa State College, 1936. (1939-)

ZIMMERMAN, OSWALD T., *Professor of Chemical Engineering*
B.S.E. (Ch.E.), University of Michigan, 1929; M.S.E., *ibid.,* 1931; Ph.D., *ibid.,* 1934. (1938-)

MAJOR ADMINISTRATIVE ASSISTANTS

Walter B. Adams, *Acting Manager of University Bookstore*
Lulia T. Andrews, *House Director, Theta Chi House*
Theresa R. Batchelder, *Mail Clerk*
Gladys H. Blaisdell, *Acting Assistant to the Treasurer*
Maisie C. Burpee, *Clerk, College of Agriculture and Agricultural Experiment Station*
Louise M. Cobb, *House Director, Fairchild Hall*
Charlotte D. Conover, *Assistant to House Director, Congreve Hall*
Alice C. Currier, *House Director, Luella Pettee House*
Lillian F. Curtis, *Secretary to the President*
Arline B. Dame, *House Director, Schofield House*
William M. Delbrouck, *Manager, Printing and Duplicating Service*
Esther M. Dunning, *House Director, Congreve Hall*
America F. Durrance, L.I., *House Director, East and West Halls*
Howard A. Eaton, *Acting Manager, University Dining Hall*
Mildred M. Flanders, *Secretary to the Dean of the College of Technology*
Cora F. French, *Secretary to the Director of the Extension Service*
Edith O. Gardner, B.S., *Assistant Manager and Dietitian, University Dining Hall*
May H. Hamilton, *House Director, Commons*
Dorothy S. Hanson, *Secretary to the Dean, College of Liberal Arts*
Helen F. Jenkins, *Secretary to the Faculty of the College of Liberal Arts*
Beatrice J. Kirk, *House Director, Grant House*
Eva Lauder, *House Director, Phi Mu Delta House*
Helen H. Latimer, *Gas Analyst, Agricultural Experiment Station*
Willis E. Littlefield, B.S., *Purchasing Agent*
Albert D. Littlehale, *Herdsman, Agricultural Experiment Station*
Olive B. Moore, B.R.E., *Secretary to the Treasurer*
Alida H. Pearl, *House Director, Smith Hall*
Lucille E. Pellett, *House Director, Scott Hall*
May E. Phipps, M.A., *House Director, Congreve North*
Penelope N. Richards, B.A., *House Director, Sigma Beta House*
Beatrice M. Richmond, *Cashier, Business Office*
Betty G. Sanborn, *Seed Analyst*
Marcia N. Sanders, *House Director, S.A.E. House*

UNIVERSITY *of* NEW HAMPSHIRE

HISTORY

Seventy-seven years ago, in 1866, the State of New Hampshire accepted the provisions of the Federal Morrill Act and established the New Hampshire College of Agriculture and the Mechanic Arts. This national legislation, which had been approved by President Lincoln in 1862, provided for an allotment of public lands to each state for instituting such a college. In place of land New Hampshire accepted scrip and, selling this for $80,000, founded the College at Hanover in conjunction with Dartmouth College. For a quarter of a century the institution remained a branch of Dartmouth with an average enrollment of about 25 students. In 1888, through the Federal Hatch Act a State Agricultural Experiment Station was also established as a part of the College.

Meanwhile, there lay in a legal adviser's safe in Durham the will, made in 1856, of a farmer, Benjamin Thompson, bequeathing his entire estate to the people of New Hampshire on condition that the State establish on his land a College of Agriculture. No one had known of his proposed philanthropy. The Thompson estate then amounted in land and securities to $300,000, but this was to lie untouched, at compound interest, for a period of 20 years. When, at last, in 1912 it first became available, it amounted to approximately $800,000.

When the terms of the will became known in 1890, the Legislature promptly made the necessary enactments to establish the College at Durham. The enthusiastic Senior Class of 1891 journeyed down from Hanover to hold its Commencement Exercises in the College's first new building — a cow barn. As rapidly as possible, the State erected

four other buildings, Thompson Hall, Conant Hall, Nesmith Hall, and the College Shops, which were ready for occupancy in 1893 by a group of 64 students, including 10 women.

In 1911, the Trustees authorized the setting up of an Agricultural Extension Service which was further developed later by Federal and State appropriations to make possible headquarters with County Agricultural Extension Agents in each county of the State.

By 1914, constant expansion of the student body resulted in an administrative division of the College into three groups: Agriculture, Engineering, and Arts and Sciences.

Moved by a devoted alumni body and the more than 1,000 students then enrolled, the Legislature, in 1923, renamed the College the University of New Hampshire, creating within it the three Colleges of Agriculture, Technology, and Liberal Arts. Two years later, it permanently provided for the University's support by granting it an annual income of one mill for each dollar of the assessed valuation of all taxable property in the State.

Today, the University comprises the three Colleges, the Agricultural and Engineering Experiment Stations, the General Extension Service, the Summer School, the Graduate School, and the Forestry Summer Camp in the White Mountains. Before the war the annual enrollment had reached more than 3,400 students.

THE UNIVERSITY IN WARTIME

The war has affected the instructional program of the University through the departure of a considerable number of Faculty members and the major part of the male student body for military service, and through the participation of many other members of the Faculty in the war-production program. Some elective courses have been canceled, and several curriculums, normally pursued by men students, have been omitted temporarily. As rapidly as sufficient men return to the Campus, these suspended courses and curriculums will be restored. The Registrar will supply up-to-date information on what is being offered.

Because of war demands, the University has added new courses and modified some old courses. All students have been urged to include in their programs courses which will give them special preparation for participation in the war effort.

The University's part in the Engineering Science and Management War Training Program is described on page 41.

The Engineering and Agricultural Experiment Stations have been, and now are, engaged in experimental studies related to the war effort. The General Extension Service, in co-operation with the United States Department of Agriculture, has devoted a large part of its efforts to increased food production.

INSTRUCTION

ORGANIZATION

The government of the University of New Hampshire is vested in a Board of Trustees, thirteen in number, of which the Governor of the State, the Commissioner of Agriculture, and the President of the University are members *ex officiis*. Two members, one of whom must be a resident of New Hampshire, are elected by the Alumni of the University, and eight members are appointed by the Governor.

The University Senate, a representative body elected by and from the Faculty, has legislative jurisdiction in matters of student government and educational policy. Within the Senate is the University Council which acts in an advisory capacity to the President and serves as an Executive Committee between meetings of the Senate. Details of the University organization are given in the current Faculty Handbook.

INSTRUCTION

Resident Instruction is offered in the College of Agriculture, the College of Technology, the College of Liberal Arts, the Graduate School, the Department of Physical Education, and the Department of Military Science and Tactics.

The Summer School has been, since 1922, an integral part of the University program. Prior to that time, 1894 to 1897, a Summer School in Biology had been conducted. Courses are offered in the Summer School by the three Colleges and the Graduate School to meet the needs of teachers, administrators and supervisors of elementary and secondary schools; students seeking special professional preparation or working for undergraduate or graduate degrees; students anticipating courses or supplying deficiencies; qualified and mature persons who wish courses for general cultural purposes. Qualified teachers in method and subject matter are drawn from the University Faculty and are supplemented by specialists selected for their attainments in particular field at other institutions. The Catalogue of the Summer School gives specific information as to courses.

In addition to the offerings available at the University in Durham, summer instruction is given in Forestry and Fish and Game Management at the Forestry Summer Camp. (See p. 43.)

University Degrees.—A student who is a candidate for a degree must meet all the requirements of his elected curriculum as set forth in the catalogue for the year in which he first pursues that curriculum. He must also meet such new regulations as may be subsequently adopted by the University and made applicable to him; and he is also held responsible for such other rules or regulations as may be published in the Official Handbook for Students. The following degrees are conferred:

Graduate School—Master of Science, Master of Arts, Master of Education, and Master of Science in Engineering.

College of Agriculture—Bachelor of Science.

College of Technology—Professional degrees of Mechanical Engineer, Civil Engineer, Electrical Engineer; Bachelor of Science in Architecture, Chemistry, Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, Physics.

College of Liberal Arts—Bachelor of Arts; Bachelor of Science.

CERTIFICATE

College of Agriculture—In the Applied Farming Curriculum, a Certificate of Graduation.

College of Liberal Arts—In the Two-Year Secretarial Curriculum, a Certificate of Graduation.

RESERVE OFFICERS TRAINING CORPS.—In co-operation with the United States War Department, the University maintains a Reserve Officers Training Corps as a part of the Federal system to provide systematic military training for school and college students.

While the War Department supervises the training, details regular, reserve, and non-commissioned officers of the Army as instructors, and loans the necessary equipment, students undergoing this instruction who are members of the R.O.T.C. are in no way members of the military forces of the Government. They remain civilians and, as regards obligations to serve the Government, are in the same category as students not members of the R.O.T.C.: that is, enrollment in the R.O.T.C. involves no additional obligations as to military service.

The cadets are furnished with a uniform which is worn during military instruction only. An expense to them is the purchase of belt, cravat, shirt, and one or two textbooks.* Only tan shoes and tan socks are authorized to be worn with the uniform.

At present, instruction is offered only for the basic R.O.T.C. training, the first four semesters of the former eight-semester course which led to a reserve commission in the Army. The instruction is branch-immaterial. Successful completion of the four semesters of training does not automatically entitle the student to any particular rating or rank upon his induction into the military forces.

**A deposit of fifteen dollars is required of each student having military equipment in his possession, whether registered for Military Science or not. At the end of the academic year or upon a student's severing his connection with the University, this deposit will be refunded to him upon the satisfactory return to the University of all military property loaned — except that a reasonable deduction will be made to cover any damage beyond natural wear and tear or for the loss of any of the equipment.*

WAR TRAINING PROGRAM

The advanced phase of the R.O.T.C. has been discontinued because of the induction into the military forces of all the men who would be eligible for pursuing the course. Resumption of the advanced phase of the R.O.T.C. training will depend upon the course of the war and legislation passed by Congress.

ENGINEERING, SCIENCE, AND MANAGEMENT WAR TRAINING PROGRAM

In co-operation with the United States Office of Education the University is offering short intensive Engineering courses at the semi-technical level. Some of these courses prepare men and women for positions in industries engaged in the production of war materials. Other courses up-grade employees who are already working in those industries.

During the four years of this program, 2,786 men and women have enrolled in ESMWT courses and have been trained to make a more effective contribution to the war effort as supervisors, designers, power plant operators, radio technicians, personnel men, foremen, electricians, toolmakers, draftsmen, safety directors, foundrymen, and accountants.

A program of 25 courses was planned for 1944-45. It included Textile Chemistry, Technology of Yarn and Yarn Calculations, Industrial Safety Engineering, Personnel Supervision and Training, Mathematics for Navy Yard Designers, Mathematics for Engineering Aids, Motion and Time Study, Industrial Management, Alternating Current Machinery and Control, and Accounting.

Conferences, Institutes, and Short Courses.—In its endeavor to serve the needs of the State and region, the University conducts or sponsors many conferences, institutes, and short courses. War conditions have greatly reduced these activities.

Instruction of Less than College Grade is made available by the University in the Applied Farming Curriculum. The purpose of this curriculum, organized in the College of Agriculture, is to give the greatest amount of practical training that is possible during a two-year period of time to students who cannot attempt the four-year curriculum. It is directly administered as a separate unit, and a trained teacher of agriculture is in charge with his own staff of instructors. Assistance from any of the College departments or personnel in curriculum matters is available. Any high school graduate of good character, or any student who has completed a minimum of two years of high school and is 18 years of age or over, may be admitted. Two academic years of residence and field training or

supervised farm experience during the summer months are required for graduation. A special bulletin of the Applied Farming Curriculum may be secured from the Registrar or from the Office of the Applied Farming Curriculum.

OTHER SERVICES AND FACILITIES

The General Extension Service is designed to make available to urban and rural areas the contributions of the University's Research bodies and Faculty, and to co-ordinate activities carried on with State agencies and organizations.

Rural work in Agriculture and Home Economics is conducted co-operatively with the United States Department of Agriculture and the County Farm Bureaus through a staff of 64 members. Specialists conduct demonstrations in Farm Management, Dairying, Forestry, Soils and Crops, Poultry, Horticulture, Marketing, Engineering, Nutrition, Social Organization and Recreation, Clothing and Home Management, and each county has Agricultural, Home Demonstration, and 4-H Club Agents.

The General Extension Service is empowered under the administration of its Director to develop Extension courses, with or without University credit, in centers within the State; to make lecture engagements for Faculty speakers; to publish all official bulletins of the University; to operate the Official News Bureau; to conduct the University Broadcasting Studio; to hold Institutes, either on or off Campus; to conduct special short courses at the Crafts Cottage or other laboratories; and to develop the University Moving Picture Film Service and other Visual Education activities. Courses conducted under the General Extension Service are taught by regular members of the University's resident Faculty or by staff members of co-ordinate rank. A catalogue describing Extension courses is available upon application.

The Agricultural Experiment Station is concerned with solving problems that shall contribute to a continuous improvement in the services and satisfactions of farm life. At the present time a large proportion of nearly one hundred definitely organized projects is devoted to problems incident to the war effort. The usual tests of seeds, fertilizers and soils are continued; plants and insects are identified; blood samples are tested; and post-mortem examinations of animals are made. Bulletins covering a wide range of subjects are printed for free distribution to all persons in the state who have use for them.

The Engineering Experiment Station provides engineering and research facilities for the industries of the State. The personnel and facilities of the University are available through this agency to manufacturers for the solution of technical problems.

OTHER SERVICES AND FACILITIES

At the present time, in co-operation with the State Planning and Development Commission, a long-range program devoted to studies of wood-waste utilization is in progress.

An unusual opportunity is provided for properly qualified undergraduate and graduate students to participate in the technological work of the Engineering Experiment Station.

Provisions can be made for the establishment of industrial fellowships by both in-state and out-of-state industries. At the present time, a number of firms have availed themselves of this opportunity to do specialized research in certain industrial fields.

THE BUREAU OF GOVERNMENT RESEARCH serves as a headquarters for the New Hampshire Municipal Association and acts as a clearing house for problems of governmental administration.

THE BIOLOGICAL INSTITUTE groups all plant and animal sciences together for research work and co-operates with State and Federal Departments and organizations in obtaining biological information. Major projects are now devoted to a long range program of conservation of natural resources, with special emphasis on wild life, and a biological survey of the State. In co-operation with the State of New Hampshire, the Biological Institute is conducting a survey of the resources of Great Bay and the adjacent coastal waters.

*THE FORESTRY SUMMER CAMP, located in the heart of the White Mountains at Passaconaway, includes a tract of 400 acres of timberland on which are examples of most of the northern forest types. The property is surrounded by the White Mountain National Forest which makes available to the camp more than a half million acres of the finest woodlands in the East. Students are housed in an attractive building, formerly a summer hotel, affording adequate living facilities as well as drafting rooms, laboratory, and a darkroom. The boundary of a national game area of 60,000 acres is less than a half mile from camp, and the Bartlett Experimental Forest is only a short distance away. National forest operations are carried on nearby and serve for purposes of instruction. Recreational activities include swimming, fishing, tennis, and mountain climbing. There are 50 mountain peaks within a 10-mile radius. Bartlett, Conway, and North Conway villages are easily accessible.

THE HAMILTON SMITH LIBRARY is the main building in the University library system, which includes various branches such as the Plant and Animal Sciences Library in Nesmith Hall, the James Hall Chemistry Library, the DeMeritt Hall Library of Engineering, Architecture, and Physics, and the Morrill Hall Bureau of Government Research Library. It is a United States Government Depository Library. The book collection numbers 132,800 volumes. Nine hundred and thirty-six periodicals are received currently and made available

*Not operated 1944, see page 38.

for use in the Periodicals Room. In the Newspaper Room a half dozen metropolitan dailies and most of the New Hampshire papers may be enjoyed. A generous browsing area facilitates the selection of books for pleasure reading, and the open stacks give the student every opportunity to familiarize himself with the world of books.

Because the Hamilton Smith Library serves the townsfolk, as well as the Faculty and students of the University, there is a children's room (the Charlotte Thompson Room) increasingly well-stocked with the best in children's literature. This collection, used constantly by the children, provides an unusual laboratory for the students and others who plan to work with children and children's books.

Housed on the second floor is the Art Division. In its exhibit gallery is displayed a succession of loan exhibitions selected to appeal to a variety of interests. There is a collection of 1391 phonograph records, the nucleus of which was a gift from the Carnegie Corporation of New York. There are three listening rooms. The largest of these, used also for group music appreciation, is the Philip Hale Room, which contains the desk, chair, and many of the books of the well-known music critic.

The University Health Service, located in Hood House, is devoted to the protection, improvement, and maintenance of student health. A well-equipped outpatient clinic for diagnosis and treatment of ambulatory students and a modern hospital of 26 beds, with private and semi-private rooms, wards, and an isolation division for communicable disease, are constantly available for students who require medical or surgical care. Registered nurses are on duty at all times. Individual health guidance is given through personal conferences with the University physicians.

Payment of tuition entitles students to all medical care rendered by the University physicians and the nursing staff. Injury or illness requiring hospital confinement other than in Hood House, services of specialists, operations, ambulance service, special nurse or special prescriptions are at the expense of the student. Bed patients at Hood House are charged $1.00 per day. There is no charge for office calls between the hours of 8:00 A.M. and 5:00 P.M.; at other times, there is a charge of $1.00, although this fee may be canceled by the University Physician if he finds that the onset of the illness or injury occurred at such a time as to make necessary a call during this period. When a student who has been attended by the Hood House Staff is asked to return for treatment or observation after regular office hours, no fee will be charged.

The Postwar Education Service has been set up to facilitate resumption of education by those who have been in military or production service during the war. The Service handles the admission or re-admission of such individuals to the University, counsels them

until they have made a satisfactory adjustment to the University, helps arrange desirable individual adjustments of curriculum requirements, and evaluates the academic value of military training.

The Bureau of Appointments assists Seniors and Alumni to secure positions after graduation. It corresponds with and interviews school superintendents, personnel managers of industrial concerns, institutional managers, and others who employ college graduates, calling to their attention Seniors and Alumni who are seeking positions. The Bureau also assists in finding opportunities for men students for employment in and about Durham.

The Psychological Service Bureau is primarily devoted to the task of providing personal guidance for those students who need assistance in solving adjustment problems of an emotional and social nature. Its services are available, also, to those who seek help in selecting a vocation.

Student Workshop. The Department of the Arts maintains an experimental Arts Laboratory in Hewitt Hall for use of all students in the University. Whether enrolled in Art courses or not, students are invited to explore, under advice and assistance of a departmental representative, their creative interests and abilities. This laboratory is equipped with a complete set of power and hand tools for woodworking, a printing press with type, an air brush, silk screen printing equipment, and facilities for block printing, model building, wood carving, metalwork, etc.

Museum Collections. Though the University has no museum, there are several collections housed in various buildings. At present specimens are being collected to illustrate the zoology, geology, entomology, and Americana of New Hampshire. Many New Hampshire collectors and naturalists have made the University their permanent depository.

Religious Activities. Opportunities are provided in Durham for students to practice religion and to participate in religious life. The Hillel Club, the Newman Club, and the Student Christian Movement are (page 71) the agencies through which the religious interests and life are fostered among the students.

The Durham Community Church welcomes students to its many services of worship, to Sunday evening programs, and to share church activities through student affiliate membership. The pastor is *ex officio* a member of the staff of the Student Christian Movement.

The Roman Catholic Church provides a Chaplain for the Newman Club and holds Sunday Mass at ten o'clock in Murkland Auditorium.

UNIVERSITY LANDS AND BUILDINGS

University lands comprise approximately 2,300 acres. Lands at Durham total about 1,500 acres, of which some 170 acres are devoted to the campus proper and athletic fields; 316 acres to hay and mowing;

42 acres to orchards and gardens; 471 acres to forest; 464 acres to pasture; and 20 acres to ponds.

Buildings for Administration, Instruction, and Research

Thompson Hall (1893), the general Administration Building, is named for Benjamin Thompson, benefactor of the University. It contains the offices of the President, the Business Office, the Registrar, Bureau of Appointments, Alumni Secretary, Deans of Men and Women, and the offices of the General Extension Service. Located on the third floor are the library and studio of the Music organizations, the office and classroom of the Speech Section of the English Department, and the University Radio Studio.

Conant Hall (1893), named for John Conant of Jaffrey, a generous friend of the College, houses the Departments of Civil Engineering and Geology and the Engineering Experiment Station. A Government Weather Observatory is located here to serve airline travel through regular hourly recordings of weather conditions.

Nesmith Hall (1893, remodeled and enlarged in 1939), the headquarters of the Biological Institute, houses all University Plant and Animal Science departments except Dairy Husbandry. One of the four original Campus buildings, it has been enlarged and renovated into a modern science center, four times its former size. It is named for Judge George W. Nesmith of Franklin, a former Trustee President.

Charles E. Hewitt Hall (1893) houses the laboratories in machine, wood, forge, and welding shop practice. Located also in this building are the internal combustion and aeronautical laboratories, the Photo-Visual Service, including studio, laboratory, and dark-rooms; the Student Workshop, the University Printing and Duplicating Service, and the Cold-Storage Plant used by the Department of Horticulture for the fruit from the University orchards and as a laboratory for instruction in the handling and storage of horticultural products. It is named for Charles E. Hewitt, first Dean of the College of Technology.

Morrill Hall (1902) serves as the headquarters for the College of Agriculture, the Bureau of Government Research, and the Departments of Social Sciences including Economics and Business Administration, Sociology, History, Agricultural Economics, and Government. It is named for Senator Justin Morrill of Vermont, sponsor of the Land Grant Act.

Ballard Hall (1905, remodeled in 1942) affords classroom, studio, and office facilities for the Department of Music, houses the Ceramics Laboratory, and serves as headquarters for *The New Hampshire, The Granite,* and a number of student organizations.

New Hampshire Hall (1906, remodeled in 1940) provides facilities for Physical Education for Women and for student organizations including the Hillel Club, the Newman Club, and the Student Christian Movement; it contains a lounge room, an auditorium seating 1,100 and a completely equipped stage for dramatic productions.

Hamilton Smith Library (1907) was erected by means of a union of funds left by Hamilton Smith of Durham for a town library building and funds left from the Carnegie Corporation and the State. In 1937 large wings were added to each side of the original building thereby doubling reading and service areas. The next year the entire second floor was remodeled to include sound-proof music listening rooms, an exhibition gallery, and a fine arts reading and reference room. In 1940 a new stack wing was added.

Dairy Building (1910) is arranged and equipped for purposes of instruction in Dairy Husbandry and Manufacture.

DeMeritt Hall (1914), named for Albert DeMeritt of Durham, is the headquarters of the College of Technology and includes classrooms, laboratories, and offices of the Departments of Mechanical and Electrical Engineering, Physics, Architecture, and the Arts.

Murkland Hall (1927), named for Charles Sumner Murkland, president from 1893 to 1903, is the headquarters of the College of Liberal Arts and includes classrooms and offices for the Departments of English, Languages, Mathematics, Education, and Hotel Administration.

Charles James Hall (1929), bearing the name of a former Professor of Chemistry, provides lecture rooms and laboratories for instruction and research for the Departments of Agricultural and Biological Chemisty, Chemistry, Chemical Engineering, and the Engineering Experiment Station.

Charles Harvey Hood House (1932), headquarters for the University Student Health Service, outpatient clinic and hospital, is the gift of the late Charles Harvey Hood and Mrs. Hood of Boston. It was presented to the Trustees with funds for its maintenance in 1930, the fiftieth anniversary of Mr. Hood's graduation from the University of New Hampshire. It is completely furnished and equipped for all types of medical and surgical service.

Pettee Hall (1938), named in honor of the late Dean Charles H. Pettee, houses the Departments and Agricultural Engineering, Home Economics, and Military Science.

Textile and Craft Cottage is equipped with looms, rug frames, tools, and supplies for several types of hand craft projects.

Animal Nutrition Laboratory is maintained for the research studies in animal metabolism conducted by the Agricultural Experiment Station.

Buildings and Grounds Service Building (1940) contains the office of the Superintendent of Properties, shops and storage rooms of the Buildings and Grounds Service Departments and the University Rifle Range. The University and Town of Durham fire station is also located in this building.

FARM LANDS AND BUILDINGS

The University Farm, maintained for instruction and research, includes the 42-acre Horticultural Farm, the Poultry Plant, the several livestock barns, extensive greenhouses, and the University Forest. The Horticultural Farm has buildings of its own, an unusually fine orchard site, acreage for small fruit and vegetable production, an apiary, and a packing plant equipped with a grader and other apparatus for the handling of fruit. In the poultry unit are several houses and range facilities, a special pathological laboratory for disease diagnosis, and experimental flocks of hens and turkeys. Livestock barns include the Dairy Barns, providing accommodations for 120 dairy animals and containing a modern Milk House; the Stock barn, housing purebred herds of cattle and sheep, and thoroughbred stallions; the Stable of the New Hampshire Racing Commission; the Horse Barn; the experimental Sheep Barn; and the Piggery. The University Forest has 655 acres of old and second-growth timber and a nursery for the growing of seedling trees.

ATHLETIC FACILITIES

University Field House (1938) has a main floor area of nearly half an acre providing opportunity for indoor football and baseball practice and track. A movable wooden floor and bleachers for 2,500 spectators are installed for basketball. Offices and classrooms of the Department of Physical Education for Men are also located here.

New Hampshire Hall (1906 and 1940) accommodates the Department of Physical Education for Women (see page 47).

Lewis Fields (1936), outdoor recreational center, are named for Edward Morgan Lewis, president from 1927 to 1936. They include six fields for football, soccer, and lacrosse, four baseball diamonds, a cinder track with a 220-yard straightaway, pits and runways for jumping and vaulting, fourteen composition and six clay tennis courts, concrete bleachers seating 1,750 spectators at baseball games and concrete stands seating 5,000 spectators at football and track and field contests. The entire equipment was built in co-operation with Federal work-relief agencies. Materials used in the construction of

the main field stands were provided by Alumni of the University as the first project of the Alumni Fund.

Brackett Field (1936), the varsity baseball field on Lewis Fields, is named in honor of William H. L. Brackett, '14, prominent student leader of his college generation who died from wounds received during World War I.

Memorial Field (1922), outdoor recreational center for women students, was the first gift of major importance from the Alumni to the University and is a memorial to the eighteen New Hampshire men who lost their lives in World War I.

Swimming Pool (1938) is available for general swimming and classes of instruction. Life-guard service, maintained by the University, a graduated diving tower, and dressing and locker facilities are features of the swimming unit. The water is scientifically treated through a filtration plant. In the winter months the pool provides skating facilities.

RESIDENTIAL HALLS

Commons (1919) contains the Freshman dining hall, the guests' dining room, the President's dining room, a cafeteria, a trophy and lounge room, student organization rooms, and dormitory facilities for 44 undergraduate men.

Fairchild Hall (1916) honors Edward Thomson Fairchild, President from 1912 to 1917. It furnishes accommodations for 113 undergraduate men.

East and West Halls (1918), erected by the United States Government to furnish housing facilities for troops in training at the College during World War I, provide comfortable quarters at low cost for 206 men.

Schofield House (1895, remodeled and enlarged in 1943) furnishes quarters for 52 undergraduate women.

Smith Hall (1908), originally constructed through the generosity of Mrs. Shirley Onderdonk of Durham as a memorial to her mother, Mrs. Alice Hamilton Smith, furnishes rooming facilities for 79 women students.

Congreve Hall (1920) accommodates 233 undergraduate women. The first unit was built with funds made available through the will of Mrs. Alice Hamilton Smith of Durham and bears her daughter's name. A second unit was added in 1938, and the building completed in 1940.

Hetzel Hall (1925), named for Ralph D. Hetzel, President from 1917 to 1927, accommodates 156 undergraduate men.

Scott Hall (1932), named for Clarence Watkins Scott, Professor of History from 1879 to 1930, furnishes accommodations for 119 undergraduate women.

Elizabeth DeMeritt House (1931), named for Mrs. Elizabeth P. DeMeritt, Dean of Women from 1919 to 1931, and maintained for practice in Home Management, is a modified Cape Cod cottage, thoroughly equipped with modern household devices. It houses six resident students, two instructors, and a play school for pre-school children.

Luella Pettee House (1941), named for Mrs. Luella Pettee, wife of former Dean Charles H. Pettee, accommodates 31 undergraduate women.

Grant House (1942) furnishes quarters for 14 undergraduate women.

GENERAL INFORMATION

METHODS OF ADMISSION

The University will admit without examination properly prepared New Hampshire students who are graduates of high schools or academies of New Hampshire that are approved by the State Board of Education, or those who are graduates of other accredited preparatory schools.

Applicants whose records do not give evidence of capacity, disposition, and preparation adequate for successful college study may be required to withdraw their applications or to submit to examinations to determine their fitness for college study. This applies directly to those who stand in the lower three-fifths of their respective classes in the secondary school, and to others concerning whose qualifications there may be doubt.

The number of non-state students admitted each year is limited to a small proportion of the student body. Selection of out-of-state candidates is made primarily on the basis of their high school records, but such traits as character, leadership, and initiative will be taken into account. Because of the large number of New Hampshire students needing financial assistance in the form of employment, out-of-state applicants will be expected to give evidence of reasonable financial backing.

Applicants for admission are required to fill out an application form prepared by the University. Copies of this form may be obtained from secondary school officials in New Hampshire or from the Registrar of the University.

An applicant for admission who is a resident of New Hampshire is required to remit $10 with his application. One from outside the state is required to remit $25. If the applicant is admitted to the University, his advance payment will be applied to the First Semester's tuition; if he is not admitted, his advance payment will be returned. In the case of the applicant who is accepted for admission but does not enter, the advance payment will not be returned. Remittance should be made either by check or by money order payable directly to the University of New Hampshire and should be sent with the application for admission.

No applications for admission in September will be considered before the middle of the preceding February. To insure consideration before

the out-of-state quota is filled, out-of-state students should file applications not later than the middle of March. To insure eligibility for financial aid and a choice of dormitory rooms, in-state students should apply during the spring. It is understood that the preparatory work of students applying during the spring will be completed by the end of the school year.

Candidates for admission to the Freshman Class must show evidence, either by credential or examination, that they are prepared in 15 units.

An entrance unit represents one study of four or five recitations a week for one year. It is assumed that two hours of shop or laboratory work are equivalent to one hour of classroom work.

Preparatory subjects are divided into six groups. The minimum numbers of units which should be offered in each group are: Group A, English, 3; Group B, Foreign Language, none required if Mathematics is offered; Group C, Mathematics, 2 or 3*; Group D, Natural Science, 1; Group E, Social Science (including History), 1; Group F, Vocational Subjects and miscellaneous, none required. Elective units may be offered from all groups, including a fourth year of English. At least 12 of the 15 units should be from Groups A, B, C, D, and E.

Cases not covered by the above statements will be decided by the Committee on Admission.

Candidates for advanced standing may be admitted on the basis of the work satisfactorily completed at the institution from which they come. Students leaving other institutions in poor scholastic standing will not be admitted.

Every candidate for admission claiming New Hampshire residence shall be required to procure a statement, signed by the Town or City Clerk, to the effect that his parents are residents of the town or city from which he purports to register. Students admitted from foreign countries or states other than New Hampshire shall be deemed to be non-resident students throughout the entire University Course unless and until the parents shall have gained *bona fide* residence in New Hampshire.

Students entering the University must be in reasonably good health. They are given a thorough physical examination at the time of entrance.

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*This must be Mathematics preparing for further Mathematics; Commercial Arithmetic and Shop Mathematics are classed as Vocational Subjects. For students wishing to pursue courses in Engineering or Chemistry at least 3 units of Mathematics must be offered, including Elementary and Advanced Algebra and Plane and Solid Geometry. Students in the College of Liberal Arts may substitute 2 units of a single Foreign Language for the 2 units of Mathematics.

ADVANCED STANDING

VETERANS

Because of their special problems, a Postwar Education Service has been set up to handle the admission of former Service men and war industry workers. In general, they will be expected to fulfill the usual entrance requirements, but due allowance will be made for interruptions of their education caused by the demands of the war. Those who because of the war were unable to complete high school will be admitted if they appear to be prepared to pursue the college work they plan. For full details write to the Chief Counsellor, Postwar Education Service, University of New Hampshire.

SPECIAL STUDENTS

A mature student who is not a candidate for a degree, upon presenting satisfactory evidence of his ability to carry successfully the desired courses, may be admitted as a special student for one year only, upon the approval of the Committee on Admission.

In choosing his studies he must have the approval of the Head of each Department in which he elects courses, and of the Deans of the Colleges concerned.

No credit earned by a special student shall count toward a degree except upon approval of the Committee on Admission.

ADVANCED STANDING

BY TRANSFER

Candidates for advanced standing from approved institutions may be admitted by the Committee on Admission. Their status in the University of New Hampshire will be determined by the quantity and quality of the work completed at the institution from which they come.

(1) Such students must file the same applications for admission as required of Freshmen. In addition they must furnish an official transcript of work done at institutions previously attended.

(2) All candidates for the bachelor's degree, admitted to advanced standing, must spend their last year in residence, either in course or in Summer School. This requires the completion of at least 35 semester credits.

(3) Regardless of the amount of advanced standing a student may secure, in no case will he be granted a bachelor's degree until he has satisfied the full requirements of the curriculum he may elect.

BY EXAMINATION

Students twenty-five or more years of age who desire to work for a bachelor's degree may secure a substantial amount of the necessary credit by examination. Inquiries regarding the details of this arrangement should be addressed to the Registrar.

ORIENTATION WEEK

Orientation Week was instituted at the University of New Hampshire in 1924. It is evident from a study of the results of the activities of this Week that it has served as a valuable means of adjusting new students, of creating right attitudes towards college work, and of minimizing the usual delays during the first few weeks of the regular term. The week also affords an opportunity for the students to learn to know each other, to organize their efforts, to work together, to play together, and to become acquainted with the campus, the buildings, the Faculty and with the courses of study and the traditions of the University.

Attendance of all Freshmen throughout Orientation Week will be obligatory. Any candidate for the Freshman Class who is absent from the exercises will seriously imperil his admission to the University.

The war and the consequent tightening up of the University program have lessened the length of Orientation Week and curtailed some of the former activities.

FEES AND EXPENSES

ESTIMATE OF FRESHMAN EXPENSES FOR A SEMESTER

	High	*Average*	*Low*
Room (Dormitories)	$60.00	$40.00	$32.00
Board (at Commons)	100.00	100.00	100.00
Tuition*	80.00	80.00	45.00
Books	20.00	20.00	20.00
Laundry	18.00	10.00	7.00
Incidentals †	50.00	35.00	25.00
Total	$328.00	$285.00	$229.00

TUITION.—Tuition is $4.50 per credit for residents of New Hampshire and $7.40 per credit for non-residents. The number of credits for which the student registers will determine the tuition charge for the semester. Tuition for each semester is payable in advance. Students who find it difficult or impossible to procure the necessary funds for the full amount due for a semester may make arrangements acceptable to the Treasurer for a series of payments during a semester.

Charges will be assessed or extraordinary breakage or damage of classroom or laboratory equipment.

*If not a resident of New Hampshire add approximately $50 to high and average and $85 to low for registration for the normal number of credits per semester. If a resident and not a holder of a tuition grant, add $37.50 to low.

† Expenses for travel, clothing, etc., vary with the individual student, and should be added.

IMPORTANT CORRECTION

Tuition Fees have been changed since this catalogue was in type.

The tuition fee is $160 per year for residents of New mpshire and $260 for non-residents. This charge is all in- sive, covering registration, laboratory, health, graduation s, and admission to all intercollegiate athletic events. How- r, refundable deposits may be required to cover loss or akage in certain departments. Likewise a charge will be de for private lessons in music.

Any student registering for 8 credits or more shall pay full semester tuition. Any student registering for less n 8 credits shall pay $6.00 per credit hour if a resident and 0 per credit hour if non-resident.

The above figures apply in 1945-46 instead of those listed where in this catalogue.

Registration for eight or more credits entitles the student to admission to all home varsity athletic contests.

Advance Tuition Payment.—An applicant for admission who is a resident of New Hampshire is required to remit $10 with this application; one from outside the state is required to remit $25. If the applicant is admitted to the University, his advance payment will be applied to the First Semester's tuition; if he is not admitted, his advance payment will be returned. The advance payment of a student who is admitted but does not enter will not be returned.

Military Deposit.—Uniform for members of the Reserve Officers' Training Corps is provided in co-operation with the Federal Government. A deposit of $15 is required of each student to whom military equipment is issued, refundable, less lost or damaged articles, at the time of returning military equipment.

Athletic Locker Deposit.—Every student participating in the program of Physical Education and Athletics for Men and Physical Education for Women is required to deposit $1.00 for a locker which will be refunded upon return of the lock to the equipment room, less 25 cents per semester to meet partially the expense of towel service.

Student Activity Tax.—The Student Activity Tax, authorized by vote of the undergraduate students with the approval of the Board of Trustees, is paid by each undergraduate to a duly authorized representative of the Associated Student Organizations at the time of registration. The University Business Office will require evidence of the payment of the tax before registration receipt is issued. The revenue from the tax provides each student with *The New Hampshire,* student newspaper; *The Granite,* University Annual; Student Government and class activities. During 1944-45 the tax was $1.60 for men students and $2.00 for women.

Books.—Students may purchase books, classroom supplies, and other supplies at the University Bookstore in Thompson Hall.

Rooms.—The University has six dormitories for women and five for men. All rooms are heated, lighted and furnished. Bed linen, blankets and towels, however, are provided by the individual student. Each women's dormitory is equipped with a laundry. A service room is provided in each dormitory where grills and irons may be used with safety. Prices range from $32 to $60 a semester. Applications for rooms in the dormitories should be addressed to the Secretary, Office of Room Assignments, Thompson Hall, University of New Hampshire, Durham.

Students living in University dormitories are required to sign room contracts covering the College year.

A five-dollar ($5.00) room deposit must accompany each application, this deposit to be forfeited if the room accepted is not occupied by the applicant. The deposit is held as a guarantee against breakage and will be returned at the close of the year or upon withdrawal.

Room rent is payable in advance. For the Fall Semester room rent must be paid not later than August 15, and for other semesters during the registration periods. Rooms reserved will be held only until August 15 unless the Fall Semester's rent is paid before that date.

Rooms paid for and not occupied one day after registration may be declared vacant and the room rent returned, unless the individual holding the reservation makes a written request to the Dean of Men to hold the room until a later date. The advance payment for the room will not be returned to those making this special request. No room will be reserved more than ten days after the registration date. Early application is necessary in order to secure a choice of rooms. Rooms in private dormitories or families may be secured for about the same prices as for those in College dormitories.

Women students, unless living at home, are required to room in one of the women's dormitories or a sorority house, unless working for her room in a private family. A competent house director is in charge of each women's dormitory.

Board.—A dining hall is operated and supervised by the University for the accommodation and benefit of the students. All Freshmen, whose homes are not located in Durham, are required to board at the University Dining Hall for the first two semesters of attendance at the University. The aim of the compulsory regulation is to insure a broad fellowship and to safeguard the health of the first-year students by offering skilled dietetic oversight in the selection and preparation of their food. The Dining Hall is equipped with the best appliances for cooking and serving on a large scale, and is subject to constant sanitary inspection by the University Physician. Board is $100 per semester, payable at registration for each semester.

The Dining Hall is not operated for profit. Savings made possible by reduced costs of operation are passed along to the students in the form of reduced board charges.

A cafeteria is open to all students of the upper classes who may desire to take advantage of the moderate price and the high quality of food available at the University Dining Hall.

Personal Cash Deposits.—Students are urged to arrange checking accounts in their home banks or to place money on deposit in the Business Office until needed, in order to avoid possible loss resulting from keeping on hand considerable sums of money. Such banking arrangements will also facilitate payment of registration bills which are due and payable during the stipulated registration periods. The Business Office will accept and cash student checks.

UNIVERSITY AID TO STUDENTS

SELF-SUPPORT

A great many students earn their education in part by means of their own labor during summers and while in college. Students find employment as library assistants, assistants in instructional and research laboratories, proctors in dormitories, clerks and office assistants, waiters in the dining halls, student janitors, and student workers on the farms and about the Campus. Others find employment each year in fraternities, sororities, and homes and stores in the community.

All students and prospective students are advised, however, to survey carefully their individual physical strengths and scholastic aptitudes before committing themselves to the arduous combination of intensive study and part-time employment.

Students are urged not to count too much upon earning their way the first year, and should be sure of at least $150 from other sources for each semester of attendance. Inquiries from men concerning self-support should be addressed to the Student Aid Committee.

Student Employment Committee.—In order to insure an equitable distribution of University part-time employment, a committee of the Faculty is charged with the responsibility of rating students for employment. The committee accepts no responsibility for the annual placement of students on jobs. Its function is to endeavor to certify only needy students as eligible to hold positions. Application blanks, obtainable at the office of the Student Aid Committee, must be filled out and each student rated before he becomes eligible for a University position.

Bureau of Appointments.—The University Bureau of Appointments assists in finding opportunities for men students for employment in faculty homes and about the village of Durham. In the fall and spring months Freshmen may secure work several afternoons a week doing odd jobs or chores such as taking care of lawns, gardens and furnaces. By the end of Freshman year they may have become familiar with opportunities to secure steady work, such as waiting on table, or serving as janitor in one of the University buildings.

Women Students.—Employment for women students, except for positions in the University offices or departments, is in the hands of the Dean of Women, and inquiries from women students should be addressed to her.

Freshman women are advised not to attempt to earn their room and board in private families unless they are in good physical condition and have excellent preparation for their University work.

TUITION GRANTS

In order to enable students to attend the University who would be unable to do so without some financial assistance, the Trustees award 250 Tuition Grants annually to residents of New Hampshire who have attended college for less than two semesters. Each Tuition Grant pays $75 per year and is good for one year only.

Applications for these Tuition Grants must be returned to the Student Aid Committee not later than July 15 for the Fall Semester.

Recommendations for Tuition Grants may be made by the subordinate and Pomona Granges, State Senators, State Federation of Women's Clubs, University Alumni Clubs, and citizens of New Hampshire.

Upon investigation and approval Tuition Grants will be given to those whose need appears to the committee to be the greatest.

Tuition Grants will be forfeited at any time for misconduct or for failure to attain a satisfactory scholastic average for the first semester. A student placed on probation forfeits his Tuition Grant during the period of probation.

SCHOLARSHIPS

A limited number of scholarships is awarded annually to deserving students. In order to grant scholarships equitably the University requires full information of all applicants relative to the necessity for scholarship aid. Scholarship application blanks will be provided upon request to the Student Aid Committee. Unless otherwise noted, applications for scholarships should be made directly to the Student Aid Committee.

These scholarships will be forfeited at any time for misconduct or failure to maintain a satisfactory scholastic average. A student placed on probation forfeits his scholarship during the semester of probation.

A more detailed description of the several classes of scholarships follows:

Conant Scholarships.—These scholarships provided by the bequest of John Conant, of Jaffrey, pay $75 at present and are good for one year. By terms of the bequest they are open to men taking agricultural curriculums and preference is given to residents of Cheshire County.

Nancy E. Lougee Memorial Scholarships.—Since 1921 the interest on $5,000 bequeathed by Amos D. Lougee, of Somersworth, has been expended for scholarships of $75 each. They will be assigned each year and will be good for one year only. No applications can be approved without satisfactory evidence that the candidates *would be unable to attend without the aid of the scholarship.* Until July 15 of each year, preference will be given to residents of Strafford County.

Valentine Smith Scholarships.—Through the generosity of Hamilton Smith of Durham, the sum of $10,000 was given in 1898 to establish the Valentine Smith Scholarships.

"The income thus accruing shall be given to the graduates of an approved high school or academy who shall, upon examination, be judged to have the most thorough preparation for admission."

These are the most remunerative endowed scholarships that the institution has to offer. They pay $100 a year and are good for four years of consecutive attendance at the University provided satisfactory scholarship is maintained.

Competitive examinations for these scholarships will be held at the University at the time each group of Freshmen enters. Any student who ranked in the upper fifth of his secondary school class is eligible to take these examinations without previous application. Examinations are not restricted to residents of the state. Contestants will be examined in English, American History, Algebra (through Quadratics), Plane Geometry, and either Physics or Chemistry.

Class Memorial Scholarships.—In accordance with a communication presented to the Board of Trustees by the Alumni Association in 1922, each class upon graduation may establish a fund of $3,000, the interest of which will be used in payment of a class scholarship, to be awarded by a committee appointed by the President. The respective classes may forward recommendations to this committee, in care of the Alumni Secretary, which will investigate such recommendations before awarding the scholarships.

Scholarships shall be limited to candidates of the highest moral standards, physically sound, and preference shall be given to those who require financial aid in order to continue their education, and shall be dependent upon the same standards as govern the holding of other scholarships.

Eighteen classes are expected to establish these scholarships, and each scholarship shall be dedicated to the name of one of the eighteen New Hampshire men who died in the service of his country during World War I. Nine classes have established their scholarships to date.

They are: Forrest Eugene Adams Scholarship, Class of 1922; Paul Edward Corriveau Scholarship, Class of 1923; Pitt Sawyer Willand Scholarship, Class of 1924; George Downes Parnell Scholarship, Class of 1925; Cyril Thomas Hunt Scholarship, Class of 1926; Donald Whitney Libbey Scholarship, Class of 1927, and the Libbey family; Frank Booma Scholarship, Class of 1928; Earle Roger Montgomery Scholarship, Class of 1929; Fred Weare Stone Scholarship, Class of 1930.

Ralph D. Hetzel Interscholastic Debating Scholarships.—The Board of Trustees on December 20, 1926, set aside three scholarships each year (each for three years) to be awarded to the three Interscholastic Debaters who may qualify under regulations defined by the Interscholastic Debating League or by the University. These scholarships are limited to residents of New Hampshire.

Hunt Scholarship.—A special scholarship paying $75 has been established by the Trustees at the request of the United States War Department for the benefit of soldiers, or sons and daughters of soldiers, in the United States Army. This scholarship is named in honor of Colonel William E. Hunt, '99, and Colonel Charles A. Hunt, '01, who have rendered conspicuous and gallant service as officers of the regular army before, during, and since the World War I. This scholarship will be granted each year and will be good for one year only. The application cannot be approved without satisfactory evidence that the candidate *would be unable to attend without the aid of scholarship.* Preference will be given to a New Hampshire soldier.

Concord Alumni Scholarship Fund.—The Concord Branch of Alumni of the University of New Hampshire has established a scholarship fund. In accordance with the suggestion of the Concord Branch, money paid in from year to year is employed as a part of the Student Loan Fund of the University. Ultimately, the principal and such interest as accrues will be transferred to a special scholarship fund.

Frank B. Clark Fund.—A trust fund of $10,000 has been provided by Frank B. Clark of Dover, N. H., the income of which is to be used for the purpose of assisting and encouraging needy and worthy students who are suffering from physical impairment or deformity.

"Students impaired by the loss of an arm shall receive prior consideration.

"The benefits of this gift are to be available to students in any secondary school or college except a secondary school or college which is under the direction or control of a church or religious affiliations or preferences, and with the further understanding that students at the University of New Hampshire shall be given prior consideration."

Dads'-Hetzel Scholarship Fund.—At the second annual Dads' Day at the University, the fathers present voted to establish a scholarship fund to be known as the Dads'-Hetzel Fund and subscribed $304. For the present this money will be employed as a part of the Student Loan Fund of the University. Ultimately the principal and such interest as accrues will be transferred to a special scholarship fund.

Edmund L. Brigham Scholarships.—The income of a trust fund of $4,812 provided by the will of Edmund L. Brigham, a member of the class of 1876, is divided into two scholarships of equal sums each to be known as the Edmund L. Brigham Scholarship. They will be awarded at the end of each year to the two members of the Freshman Class who under the pressure or necessity of having to earn a portion of their college expenses show either a constant improvement in scholarship, or a high scholastic average, or both.

New Hampshire Branch of National Civic Federation Scholarship.—From the income of a fund of $1,100, established in June, 1930 and

supplemented in October, 1937, by the New Hampshire Branch of the National Civic Federation, a scholarship is to be awarded annually to the woman majoring in Economics or Business who, upon completion of six semesters' work and, by excellence of scholarship, character, and promise of leadership, is judged to be most worthy. The Dean of the College of Liberal Arts and the two ranking members of the Department of Economics shall name the winner of this scholarship in each year.

S. Morris Locke Memorial Scholarship.—The income of a fund of $3,000 established by the late Mary D. Carbee of Haverhill, N. H., as a memorial to Mr. and Mrs. S. Morris Locke, shall be known as the S. Morris Locke Memorial Scholarship. This scholarship is to be awarded each year to the student ranking highest upon completion of six semesters' work who is majoring in Chemistry, Entomology, or in any work where the microscope or microscope technique is largely employed, and who has demonstrated outstanding qualities of application, industry, and initiative in any of these fields of work.

Cogswell Scholarships.—Through the generosity of the trustees of the Cogswell Benevolent Trust of Manchester 30 scholarships of $100 each will be available to members of the Senior Class. These scholarships will be given to members of the class whose general record of scholarship, attainments, and conduct during the Freshman, Sophomore, and Junior years are adjudged by a committee of the Faculty to be most worthy. The committee will scrutinize closely the record of the Junior year, and will give weight not only to the general excellence of the scholarship record, but to growth and improvement as well.

Hood Scholarships.—Through the generosity of the Charles H. Hood Dairy Foundation, there are available to qualified students in the College of Agriculture whose aims are set definitely to promote farming as a life opportunity four scholarships of $200 each. These scholarships are awarded to students who maintain high standards of scholastic excellence and strong character and, in case of competition, are assigned in preference to students who intend after graduation to take up work relating to farm milk production. Application should be made to the Dean, College of Agriculture.

George H. Williams Fund.—The income of the fund of $9,900 bequeathed to the University by the late George H. Williams of Dover, N. H., shall be used to award scholarships to deserving and meritorious students of Dover. This income shall be divided into four annual scholarships of equal value. These scholarships, awarded for one year only and not renewable, will be granted to men and women students, residents of Dover, for either the Sophomore or Junior year. Eligibility shall depend upon character, meritorious scholarship, self-help, and evidence of financial need.

The Ordway Fund.—Through the bequest of Martha H. Ordway, of Hampstead, in 1934, the income from $2,000 will be expended each year for the benefit of indigent students from Sandown or Hampstead, if any; otherwise for the benefit of other indigent students attending the University.

Charles H. Sanders Fund.—The income from a bequest of $3,000 from the estate of Charles H. Sanders, class of 1871, provides a scholarship in memory of the first class to be graduated from the University in 1871, consisting of William P. Ballard of Concord, Lewis Perkins of Hampton, and Charles H. Sanders of Penacook. This scholarship will be awarded to a needy student who has completed four semesters' work and who has excelled in scholarship or has shown marked improvement in his scholastic achievement during his first four semesters at the University.

John N. Haines Scholarship.—The income from a fund of $2,475 bequeathed by John N. Haines of Somersworth will be used to provide a scholarship for a deserving student of the University. Preference will be given to a student whose home is in Somersworth.

Harvey L. Boutwell Scholarship.—The income of a bequest of $3,000 of the late Harvey L. Boutwell of Malden, Mass., class of 1882, and member of the Board of Trustees from 1911 to 1929, provides a scholarship for a deserving student who would otherwise find it difficult to obtain a higher education. It will be awarded annually to a Massachusetts student, preference to be given to a resident of Malden, Mass. The determination of the award will be based on character, scholarship, self-help, and evidence of financial need.

Currier-Fisher Scholarship Fund of New Hampshire's Daughters.—The income of a gift of $3,500 in 1938, supplemented by an additional $210.50 in 1940, from New Hampshire's Daughters, is to be used for educational purposes by New Hampshire girls attending the University.

Sears, Roebuck Agricultural Foundation Scholarships.—Through the generosity of Sears, Roebuck and Company, and in appreciation of the business received from the rural areas, several scholarships of approximately $100 each have been available annually since 1940 to bona fide farm boys who have given evidence of scholastic ability and who also need financial assistance to remain in college during the Sophomore year. Application should be made to the Dean, College of Agriculture.

Georg Engelhardt Scholarships.—Two scholarships will be awarded annually to the highest ranking man and woman who have completed four semesters' work. The recipient of the scholarships will be chosen by a committee of the Faculty on the basis of need, scholarship, participation in extracurricular activities, leadership, and service as evidenced during the first four semesters of college. These scholarships were es-

tablished in 1940 by President Fred Engelhardt in memory of his father, Georg John Engelhardt, and are valued at $150 each.

Rosecrans W. Pillsbury Fund.—The income of a gift of Hon. R. W. Pillsbury of Londonderry, in 1903, is to be used to assist worthy students from the town of Londonderry.

Charles H. Wiggin Scholarship.—The income of a bequest of Charles H. Wiggin, Malden, Massachusetts, in 1943, establishes a scholarship fund for the benefit of needy and worthy students.

Winifred E. Chesley Fund.—The income of a bequest of the late Winifred E. Chesley, of Lee, in 1943, in memory of her father and mother, Irving Glass and Carrie Wiggin Chesley, is to be used to assist needy students from Lee or Newmarket.

Corinne H. Coburn Fund.—The income of a bequest of Corinne H. Coburn of Exeter, in 1943, establishes a scholarship fund for the benefit of worthy students from Exeter.

STUDENT LOAN FUND

In order to assist needy students to continue their education, the University has established a Student Loan Fund. After proper investigation and approval by parents, loans may be granted to responsible students for tuition or other college expenses, except that Freshmen holding Tuition Grants may borrow in addition not in excess of $25. These loans will bear interest at 2 per cent until graduation or withdrawal from the University, and 5 per cent after graduation or withdrawal and are payable as follows: $5 a month beginning one year after graduation or withdrawal; $10 a month beginning two years after graduation or withdrawal; $15 a month beginning three years after graduation or withdrawal; and a like sum each month thereafter until principal and interest are paid.

The John H. Pearson Trust.—In co-operation with the trustees of the John H. Pearson Trust, Concord, N. H., a student loan fund has been established, and is administered under the conditions governing the student loan funds of the University.

James B. Erskine Loan Fund.—In 1930 a bequest of Dr. James B. Erskine, of Tilton, provided a fund of $3,642 for loans to students; loans to bear interest at the rate of 5 per cent until paid. This fund will be reserved for members of the Senior Class.

S. Morris Locke Loan Fund.—Through a bequest of the late Mary D. Carbee of Haverhill, N. H., a fund has been created for loan purposes in memory of Mr. and Mrs. S. Morris Locke. The fund now totals approximately $22,000.

R. C. Bradley Loan Fund.—The New Hampshire Poultry Growers Association has established a loan fund for assistance to undergraduates who have been in attendance at the University at least two years, with preference given to Seniors. Loans are open only to students majoring in Poultry Husbandry in the College of Agriculture and are based on character, scholarship, and need of financial assistance. Applications made to the Committee on Student Aid are approved by that committee with the advice of a committee selected by the directors of the Poultry Growers Association.

Charlotte A. Thompson Loan Fund.—In 1940, a bequest of $500 provided a fund for loans to students. Miss Thompson was librarian at the Durham Public Library from 1895 to 1907 and was a member of the University library staff from 1907 until her retirement in 1929.

OTHER ASSISTANCE

Luella Pettee Fund.—During the year 1939-40, as a memorial to Mrs. Charles H. Pettee, her many friends subscribed to a fund, the income of which is to be used, upon approval of the Dean of Women, to assist directly by small gifts worthy women undergraduates in need of financial assistance. The fund totals $1,883.00.

Frederick Smyth Book Fund.—The income of a bequest of $2,000 in 1901 by Frederick Smyth, of Manchester, is applied to the purchase of books to be given annually to the most meritorious students.

PRIZES *

Bailey Prize.—To endow the prize formerly offered by C. H. Bailey, '79, and E. A. Bailey, '85, a fund is being created by winners of the prize, the income of which will continue the prize for proficiency in Chemistry.

The Katherine DeMeritt Memorial Prize.—Mrs. John T. Croghan (Margaret DeMeritt, class of 1911) is the donor of a prize of $25 in memory of her sister, Katherine DeMeritt, of the class of 1908, continuing an award made by their mother, the late Dean Elizabeth P. DeMeritt. It is awarded to that Junior girl who, during her three years in college, has shown the greatest aptitude for helpful leadership and cheerful loyalty combined with strength of character and scholastic attainments.

Erskine Mason Memorial Prize.—Mrs. Erskine Mason, of Stamford, Conn., has provided $100 as a memorial to her son, a member of the class of 1893, the income of which is to be given to that Senior who is most distinguished for consistent progress and achievement.

*In order to be announced at the Senior Convocation names of recipients of prizes and awards must be in the hands of the Commencement Committee on or before April 15.

PRIZES

Interscholastic Debating Prize.—The University of New Hampshire Debating League was reorganized in 1921, and is under the direction of the Instructor in Debating and Public Speaking in the University. Any secondary school of the state is eligible for membership. Preliminary contests are conducted at the schools, and a final contest is held at the University to determine the winner of the League. A prize cup is awarded in rotation to the winners. Other prizes, such as medals and certificates, are awarded to individual debaters from time to time.

Interscholastic Prize Speaking Contest.—This contest, for students of any accredited high school of the state (provided they have not already won the first prize in a previous year), was first held in May, 1912. Three prizes are provided by the University.

University Inter-Fraternity Scholarship Trophy for Men.—Through the generosity of Wilfred A. Osgood, '14, who has donated trophies for similar purposes in the past, a plaque has been given, and is to be awarded each year to that fraternity whose members have the highest scholastic standing as certified by the Registrar.

Diettrich Cup.—This cup was given by the class of 1916 in memory of Rosina Martha Diettrich, a member of that class, who died a few weeks before graduation. The cup is to be awarded each year to the girl who attains the highest scholarship in her Junior year. The cup is to remain in her possession throughout her Senior year and until the next winner is named.

The American Legion Award.—The New Hampshire Department of the American Legion, as a mark of recognition of the University's contribution in the World War and as an expression of its interest in national defense, offers yearly a medal to that man in the Senior Class who has attained the highest distinction determined by achievement in military science, athletics, and scholarship. The name of the winner will be inscribed on a trophy. This trophy, made possible by the generosity of the American Legion of this state, is to remain in the permanent possession of the University.

Chi Omega Prize.—Mu Alpha Chapter of Chi Omega awards an annual prize of ten dollars to the undergraduate woman student at the University who excels in the work of the Department of Sociology.

Class of 1899 Prize.—The Class of 1899 has given to the University a fund of $500, the income to be used as a cash prize to be awarded "by the Faculty to the Senior who in their opinion has developed the highest ideals of good citizenship."

Phi Sigma Prize.—In order to promote research in the biological sciences the local chapter of the Phi Sigma National Honor Fraternity offers a prize of $10 to be awarded annually to that Senior who offers

most promise in research in biology. The prize has been offered each year since 1921.

Phi Sigma Medal.—In order to promote high scholarship in Biological Sciences, the Phi Sigma National Honor Fraternity offers a medal to be awarded annually to that Senior who ranks highest in Biological courses throughout the entire four years of collegiate work. The amount of work carried in Biology together with the average grade in all other courses shall be considered in making this award. It shall in no case be awarded to the recipient of the Phi Sigma prize. The medal was offered for the first time in 1938.

Hood Prizes.—Through the kindly interest and generosity of Charles H. Hood of the class of 1880, the income of funds given to the University in 1921 and in 1924 will be used for the encouragement, aid, and benefit of deserving students.

In accordance with the suggestion of the donor, for the present the income will be expended as follows:

First. *Hood Achievement Prize.*—A suitable medal will be awarded annually to that member of the Senior Class whom the members of the three upper classes choose as giving the greatest promise of becoming a worthy factor in the outside world through his character, scholarship, physical qualifications, personal popularity, leadership, and usefulness as a man among men.

Second. *Hood Dairy Prizes.*—A part of the Hood income will be devoted each year to paying a portion of the expenses of the members of a team or teams chosen for excellence in judging dairy cattle and sent to participate in intercollegiate or other dairy contests. Suitable medals will also be provided for the individual members of such teams.

Third. *Hood Supplementary Bequest.*—The income from this bequest will be used for the purchase of a suitably inscribed trophy to become the property of the University. The names of the winners of prizes in dairy cattle judging are to be inscribed annually upon this trophy, which will thus serve as a permanent record to the institution of their skill and accomplishment.

Mask and Dagger Fund.—The income from a gift of $4,900 from Mask and Dagger Society in 1940 will perpetuate the annual prizes offered by the Society for the following purposes:

Mask and Dagger Achievement Prizes of $25 each awarded each year to the three Seniors who, during their college courses, have made the most outstanding artistic contributions to the dramatic work of the University.

Fairchild Memorial Prizes, of $25 each, in memory of Edward T. Fairchild, a former President of the University, awarded to the three

Seniors who have done the most to promote dramatics during their four years at the University.

Thomas J. Davis Prize.—By a gift of Thomas J. Davis, Duluth, Minn., a native and former resident of Durham, a fund has been provided for the establishment of dairy science prizes for competitive judging of dairy cattle by "short course students," excluding all four-year students, and allowing a suitable handicap in favor of students who are taking a course of not more than four months.

Locke Prize.—The income of a trust fund of $3,000 bequeathed by the late Mary D. Carbee of Haverhill, N. H., as a memorial to Mr. and Mrs. S. Morris Locke, will be awarded at the end of each year to that Junior majoring in Latin, who is adjudged by a committee of the Faculty to have excelled in the study of that language. In awarding the prize the committee shall give weight not only to the average grade in Latin, but also to the general record of scholarship, other attainments, and character.

Psi Lambda Award.—Psi Lambda, the Home Economics Club, each year awards a cup or other suitable evidence of achievement to the Home Economics Senior who has shown the greatest improvement in personality and scholarship during her four years in college.

Association of Women Students Award.—The Association of Women Students will award annually $25 to the woman student who has proved to be of value to the women's student body, and who has shown by scholarship, self-help, leadership, and loyalty that she is worthy of this award.

Alpha Zeta Scholarship Cup.—A cup is awarded annually by the Granite chapter of the fraternity of Alpha Zeta to the Sophomore in the College of Agriculture who has made the highest scholastic average during his first three semesters' work. The winner will have his name engraved on the cup which will be on display in the Trophy Room.

General Chemistry Award.—The local chapter of Alpha Chi Sigma, professional Chemistry society, engraves each year on a trophy placed in Charles James Hall, the name of the Freshman who secures the highest average grade in Chemistry.

Phi Lambda Phi Award.—Phi Lambda Phi, Physics Honor Society, will award annually a prize of $10 to a Senior who is most deserving, as revealed by proficiency in Physics and general scholarship.

The Wellman Trophy.—The Wellman Trophy, given by James A. Wellman, of Manchester, a trustee of the University from 1928 to 1944, to stimulate and promote interest in Debating and Public Speaking, will be awarded annually at the end of his Junior year to that student who has shown excellence and continued improvement in debating. The ele-

ment of improvement will be of first importance in judging the winner. The name of the winner will be engraved on the trophy which will be on display in the Trophy Room.

The Pan-Hellenic Scholarship Trophy.—A cup has been given to the University by the University of New Hampshire chapter of Pan-Hellenic to be awarded each year to the sorority whose members have maintained the highest scholastic standing during the preceding two semesters. This trophy, first awarded in 1933, remains in the possession of the sorority throughout the year and until the next winner is named.

The Mortar Board Scholarship Plaque.—The New Hampshire chapter of Mortar Board presented to the University in 1941 a scholarship plaque on which will be engraved each year the name of the woman student of the Freshman Class of the preceding year who attained the highest academic average.

Alpha Xi Delta Plate.—A plate will be awarded annually by the Alpha Xi Delta Sorority to the Senior girl who proves herself to be the best athlete in her class. The plate will be awarded on consideration of the following qualifications: good sportsmanship, physical fitness, athletic achievements, and superior skill. The cup will be awarded by a board of judges including the members of the Department of Physical Education for Women, the President of the Association of Women Students and the President of the Women's Athletic Association.

STUDENT ORGANIZATIONS

STUDENT GOVERNMENT

THE STUDENT COUNCIL is an organization of men students which serves as a liaison body between the University Administration and the students, and as a representative group seeking to promote the best interests of the University. Members of the Council are elected by ballot each spring.

THE ASSOCIATION OF WOMEN STUDENTS promotes responsibility in maintaining high standards of personal conduct and encourages active co-operation in self-government. All women students are members of the Association.

THE STUDENT COMMITTEE ON WAR ACTIVITIES is an organization for co-ordinating and fostering student activities to further the war effort.

ASSOCIATED STUDENT ORGANIZATIONS provides a central administration of business affairs. A committee of six, appointed by the University President, advises member groups in matters of budgeting and expenditure of monies resulting from the Student Activity Tax, and makes recommendations to the President relative to the administration of the Tax.

† THE INTERFRATERNITY COUNCIL, composed of fraternity representatives, regulates Campus interfraternity relations.

PAN HELLENIC co-ordinates interfraternity women's activities and regulates the rushing period.

† THE ADVISORY COMMITTEE ON ATHLETIC AWARDS, consisting of three undergraduates and three Faculty members, acts on all recommendations for the awarding of men's athletic insignia, selects Managers of Varsity and Freshmen Sports and Cheerleaders, approves and ratifies athletic records made by University athletes in intercollegiate competition, and serves in an advisory capacity to the Senate Committee on Athletics.

THE WOMEN'S ATHLETIC ASSOCIATION includes all registered women students and provides opportunity for participation in extracurricular sports. The organization owns a cabin at Mendum's Pond for outings and sponsors Campus social events.

† Not active 1944-45 due to the war.

UNIVERSITY OF NEW HAMPSHIRE

ACADEMIC, HONORARY, PROFESSIONAL, AND DEPARTMENTAL SOCIETIES

Phi Kappa Phi, National, Honorary, highest ranking Seniors selected from all Colleges.

Alpha Chi Sigma, Professional, Chemistry.

Alpha Kappa Delta, National, Honorary, Sociology.

† Alpha Sigma, Architecture.

† Alpha Zeta, National, Honorary, Agriculture.

† The University Band is composed of members of the University Regiment and selected students.

The University Choir, advanced choral group.

† Branch of the American Society of Civil Engineers (see course description).

The Classical Club, Latin and Greek.

The Economics Club, Business, Economics and Secretarial students.

†Branch of the American Institute of Electrical Engineers (see course description).

†Engineers Club.

†Forestry Club.

The French Club.

†Gamma Kappa, Geology.

The Glee Club has two organizations, one for men † and one for women. Membership is open to undergraduates interested in choral singing who fulfill try-out requirements. The club presents several public programs a year.

The Graduate Science Society, Graduate students and Faculty members engaged in research in the Sciences.

†The Horticulture Club for students interested in horticulture.

The International Relations Club is one of over 450 chapters throughout the world assisted by the Carnegie Endowment for International Peace.

Kappa Delta Pi, Honorary, Education.

Junior Greeters of America. Charter No. 1 of this countrywide organization sponsored by hotel executives is operated by the students of Hotel Administration. Membership on this Campus makes automatic the acceptance of the graduate into the parent organization, International Greeters, a very definite start towards success in the hotel industry.

† Not active 1944-45 due to the war.

STUDENT ORGANIZATIONS

Mask and Dagger is a dramatic society which makes a practical study of the drama and presents three plays each year in conjunction with English 5. Its membership includes students who have participated in plays or assisted in stage production.

Physical Education Club, an organization for men students majoring in the Physical Education Teacher Training Curriculum.

Pi Gamma Mu, National, Honorary, Social Science.

Branch of the American Society of Mechanical Engineers (see course description).

Minnesaenger, German.

Phi Lambda Phi, Honorary, Physics.

Phi Sigma, National, Honorary, Biology.

Plant Science Club, Faculty members and Graduate Assistants.

†Poultry Club.

Psi Lambda, Honorary, Home Economics.

The Psychology Club.

†Scabbard and Blade (Company F, Sixth Regiment), National, Honorary, Military.

†Secretarial Club, students registered in the Secretarial Curriculum.

†Sociology Club.

Tau Kappa Alpha, National, Honorary, Debate and Oratory.

SOCIAL HONORARY SOCIETIES

†The Blue Key, Senior men leaders.

Mortar Board, Senior women leaders.

†Senior Skulls, Senior men leaders.

STUDENT PUBLICATIONS

The Granite is an illustrated annual published by the Junior Class.

The New Hampshire, weekly newspaper, presents Campus and Alumni news and is published by a Student Editorial Board.

†The New Hampshire Student Writer, a collection of the best undergraduate prose and verse of the year, is published annually under the supervision of the Department of English.

RELIGIOUS ORGANIZATIONS

The Hillel Club is an organization to bring to Jewish students a more adequate knowledge of their heritage, to make Jewish religious and cultural values vital and revelevant for the college generation, and to foster friendship, co-operation, and understanding among the

† Not active 1944-45 due to the war.

various religious groups on this Campus. Activities include religious services, holiday observances, lectures, musicals, classes in Jewish studies, discussion groups, and the maintenance of a library relative to Jewish study which is open to all students. A Rabbi is the Counsellor to the students.

The Newman Club, a club of Catholic culture and fellowship, fosters the spiritual, intellectual and social interests of Catholic students. It is a member of the Newman Club Federation. Activities include corporate communions, discussion study groups, lectures, dramatics, parties, dances, etc. A Reading Room is provided in New Hampshire Hall.

The Student Christian Movement is a fellowship of students united in the desire to understand the Christian faith and live the Christian life in realistic awareness. The Cabinet plans and carries out a Sunday Evening Fellowship, Freshman Camp, Deputations, Bible study, Conferences, Denominational groups, Religious Emphasis Week, and world relations. It is affiliated with the Student Christian Movement of New England and the World Student Christian Federation.

Christian Work, Inc. sponsors the Student Christian Movement. Its Advisory Board has representatives from the churches of New Hampshire through seven denominational agencies, the State Y.M.C.A., the Y.W.C.A., the Student Christian Movement in New England, and from Alumni, Faculty, and students of the University of New Hampshire.

The University Religious Council represents the co-operative religious work of the Hillel Club, the Newman Club, and the Student Christian Movement. Projects include Religious Emphasis Week, recreation, radio programs, and publicity.

INTEREST GROUPS

†The Chess Club.

†The Flying Club fosters interest in flying powered and motorless aircraft as a sport. The club maintains a Waco primary glider.

Folio, a society composed of students interested in the reading and discussion of contemporary literature.

†The Lens and Shutter Club, organized for group study and enjoyment of photography.

Mike and Dial, composed of students interested in various phases of radio work—announcing, writing, and technical work.

†The New Hampshire Club, composed of men who have earned Varsity athletic letters.

The Outing Club sponsors out-of-doors activities, especially mountain climbing and skiing, and conducts the annual winter carnival and the University horse show. The club owns cabins in Franconia Notch,

† Not active 1944-45 due to the war.

at Jackson, and at Mendum's Pond, nine miles from Durham. Throughout the school year weekly climbing or skiing trips are conducted. Membership is open to all students, Faculty members, and Alumni.

†The Poetry Workshop, a group of students interested in the study and writing of poetry.

†Press Club, a group of students interested in journalism.

†The Sphinx Society, a service organization designed to promote good will between the University and visiting athletic teams. The society entertains visiting teams and aids their managers and coaches. Membership is limited to one member of the Junior class from each fraternity.

The University 4-H Club, students who have engaged in boys' and girls' club extension work.

The Yacht Club, open to students, Faculty and Alumni, furthers the sport of intercollegiate racing, and provides sailing facilities for members. The club owns a fleet of Town Class Junior sloops which are anchored on Great Bay, three miles from Durham.

Civil Air Patrol, Army Air Force Auxiliary, organization for men and women students interested in aviation.

Student Veterans Organization, composed of veterans whose purpose is to establish a common bond between former members of the Armed Forces in their readjustment to campus and community life and to sponsor a series of lectures on citizenship.

SOCIAL ORGANIZATIONS, FRATERNITIES AND SORORITIES

The Association of Women Day Students furthers the interests of commuting women in the cultural and social activities of the University.

Dormitory and Class Organizations. Each of these groups is organized to promote its social activities.

†Fraternities.*—Kappa Sigma, (1894) 1901; Sigma Alpha Epsilon, (1894) 1917; Theta Chi, (1903) 1910; Lambda Chi Alpha, (1906) 1918; Alpha Tau Omega, (1907) 1917; Phi Mu Delta, (1914) 1918; Pi Kappa Alpha, (1921) 1929; Sigma Beta, (1921); Phi Alpha, (1922) 1924; Theta Kappa Phi, (1922) 1923; Alpha Gamma Rho, 1924; Phi Delta Upsilon, (1924); Tau Kappa Epsilon, (1926) 1932.

Sororities.*—Chi Omega, (1897) 1915; Alpha Chi Omega, (1913) 1924; Alpha Xi Delta, (1913) 1914; Phi Mu, (1916), 1919; Kappa Delta, (1919) 1929; Theta Upsilon, (1926) 1930; Pi Lambda Sigma, 1929.

† Not active 1944-45 due to the war.

FOUR-YEAR CURRICULUMS

COLLEGE OF AGRICULTURE

M. Gale Eastman, *Dean*

DEPARTMENTS

Agricultural and Biological Chemistry
Agricultural Economics
Agronomy and Agricultural Engineering
Animal Husbandry
Dairy Husbandry
Entomology
Forestry
Horticulture
Poultry Husbandry

GENERAL INFORMATION

The object of the Four-Year Curriculum of this College is to give a broad general education and thorough training in the basic sciences as well as to develop specific technical knowledge relating to the various phases of agriculture. To this end several subjects in the Colleges of Liberal Arts and Technology have been added to those provided by the College of Agriculture. The lecture and recitation work of the classroom in Agriculture is amply supplemented in all cases by practical exercises in the laboratories and about the farm. Seminars and discussion courses also are provided for Seniors or other advanced students.

Many of the graduates of the Four-Year Curriculum return to the farm for the purpose of putting into practice the knowledge and training gained in their college courses, and many of them have become successful and prosperous citizens of their communities; others, who have no farms of their own, accept salaried positions as superintendents or foremen on large dairy, fruit, stock, or poultry farms; still others take positions as teachers of science and agriculture in our secondary schools, or as assistants in agricultural colleges, experiment stations, or extension services; and, finally, an increasingly large number continue in specialized work, here or elsewhere, as candidates for graduate degrees.

When a student enters the College of Agriculture he is placed under the guidance of the Executive Advisory Committee. Previous to registration for the second semester the student will be given an opportunity to select his major field of study. When his major field has been selected he will be assigned to an advisory committee of the major

department. This committee will be responsible for approving the program of study as long as the student remains registered in that department.

The major curriculums from which the Agricultural student may make his final choice follow: (Supplementing these, the College of Agriculture will be pleased to arrange courses of study for pre-theological, pre-veterinary, and other students who desire a specialized program of study).

Agricultural and Biological Chemistry	Entomology
*Agricultural Economics	Forestry
Agronomy and Agricultural Engineering	Horticulture
Animal Husbandry	Poultry Husbandry
Dairy Husbandry	Teacher Preparation

General Requirements for Degrees

Each candidate for a degree must complete with an average grade of C (grade point average 2.0) 140 semester credits including the courses prescribed in one of the major Four-Year Curriculums.

A student graduating from any of the Four-Year Curriculums may be required by his major department to have sufficient practical experience to enable the department to recommend the student for a position.

No student may graduate from the College of Agriculture without a specific recommendation from his major department.

Not later than the end of the first semester of the Senior year each candidate for a degree shall be given, under the direction of his major department, a comprehensive examination, a part of which shall be oral, on the four years of college work.

*See Agricultural Economics, page 77.

Specific Requirements for a Degree

During the Freshman year all agricultural students pursue the same general outline of fundamental course work as listed below:

Freshman Year

All Curriculums

	First Semester Credits	*Second Semester Credits*
Mil. Sci. 1, 2	1½	1½
Phys. Ed. 31, 32	½	½
Botany 1	4	
Chemistry 1, 2 or 3, 4 (General)	4	4
Elective		3
*English (Communication)	3	3
Mathematics 1, 2 or 5, 6	3–5	3–5
**Orientation 1	1	
Zoology 48		3
	17–19	18–20

Sophomore Year

All Curriculums

	First Semester Credits	*Second Semester Credits*
Mil. Sci. 3, 4	1½	1½
Phys. Ed. 33, 34	½	½
Electives	15–18	15–18
	17–20	17–20

Additional Minimum Requirements

In order to complete the requirements for a degree from the College of Agriculture a student must obtain, in addition to the required Freshman work, credit in each of several areas. These minimum requirements covering the four years of study follow:

	Semester Credits
Biological Sciences (General Bact., Bot., Zool.)	3
Chemistry (Agr. Chem., or Chem.)	5
†Economics (Agr. Econ., or Econ.)	6
English	5
Physics	4
Social Sciences (Gov't., Hist., Phil., Psy., Soc., etc.)	6
Total	29

*Students must also fulfill the University requirements for English 1.

**See page 77 for a description of this course.

†At least 3 credits must be in Principles of Economics.

Non-Departmental Course

Orientation 1. A non-departmental course having as its objective the consideration of topics not generally available to students in other courses of instruction. Attention will be given Campus organizations and facilities, adjustment from secondary to post-secondary study, use of the library, Federal Aid and the services of Land-Grant institutions, the United States Department of Agriculture, and agricultural opportunities. Mr. Grinnell.

Required of all Freshmen in Agriculture, 1 lec.; 1 cr.

Curriculums

Agricultural and Biological Chemistry.—Students majoring in this Curriculum receive training in the various branches of General Chemistry and in their application to the growth and development of plants and animals. The methods used in the chemical analysis of plants and agricultural products and in the study of animal nutrition and metabolism are given special attention. The Curriculum is designed to provide a thorough foundation for those expecting to prepare themselves for teaching and research in colleges and experiment stations or for technical positions in industries related to agriculture. A freshman wishing to major in this Department should take Chemistry 3-4 and also Mathematics 5-6, if his high school preparation is adequate.

Curriculums

As this is a professional and specialized field, entrance to it at the beginning of the Sophomore year, and continuance in it, are conditioned by a satisfactory record. An early conference with the Head of the Department is imperative.

Agricultural Economics.—Students wishing special undergraduate training in Agricultural Economics must select another field of study with which his economic training will be combined for a Four-Year Curriculum. The following combinations are suggested: Agronomy and Agricultural Economics, Dairy Husbandry and Agricultural Economics, Forestry and Agricultural Economics, Horticulture and Agricultural Economics, Poultry Husbandry and Agricultural Economics. In each instance the student will be advised jointly by representatives of the two Departments concerned for planning a program of study.

Agronomy and Agricultural Engineering.—Courses offered in this field provide a chance for the student to specialize in Soils, Field Crops, or Agricultural Engineering. Those wishing a broad general Agricultural course should register here.

Students who major in Soil Science may find employment in many specialized fields, such as Soil Physics, Soil Chemistry, Soil Microbiol-

ogy, Soil Fertility, Soil Classification, and Soil Technology. Those who wish to specialize in crops will be trained to pursue work in Crop Production, Crop Improvement, Plant Breeding, and related fields. Men with a fundamental training in Soils and Crops are fitted to take Civil Service examinations to enter the Soil Conservation Service or other agencies in the Bureau of Plant Industry.

Positions in research, teaching, and extension are also available to men trained in soils and crops, particularly if those who desire them pursue further study in agronomic fields. Seed, feed, and fertilizer companies are eager to employ men with a broad training in Agronomy.

Men with an Agricultural Engineering background will find opportunities in industries related to agriculture, either in sales or repair work, as engineers in Soil Conservation and in other lines.

Agricultural Engineering and shop work are invaluable to the student who plans to return to the farm or to engage in teaching Vocational Agriculture. Many students who specialize in Agricultural Engineering will find it to their advantage to pursue advanced study to qualify them for research or teaching positions.

Training in all these fields is desirable for those students who wish to pursue a broad course in General Agriculture in preparation for farming, teaching, or for county Extension work.

A well equipped soils laboratory is maintained and nearby soil types and profiles are available for study. A great variety of plant material is maintained for use in the crops and seed laboratories and in field nurseries. The Agricultural Engineering Division is well equipped with modern machinery for study and with facilities for instruction in repair work.

Animal Husbandry.—This Curriculum is offered to students who wish a specialized training in the practical and intelligent management, selection, breeding, and feeding of livestock, including horses, beef and dual-purpose cattle, sheep, and swine. Special attention is given to studies which will prepare students for various lines of work, including the Extension Service, production and sales work with feed concerns and packing plants, and the management of estates and general livestock farms.

It also provides excellent preparation for graduate work in the various phases of Animal Husbandry as well as for Civil Service and other specialized lines.

Besides the various courses in Animal Husbandry, the student will normally take courses in Dairy Husbandry, Crops and Soils, Poultry, and Horticulture. In addition he will receive enough fundamental and cultural subjects to give him a well-rounded training. However, outside of a few required courses, the work taken can vary widely to give the student training in line with his capabilities or inclinations.

Various anatomical models, charts, and lantern slides, and an up-to-date library are available for student use. Herd books of the most prominent breeds are available for pedigree work. Purebred Shorthorn and Hereford cattle, Dorset and Shropshire sheep, Chester White swine and Percheron horses are available for judging and management laboratories.

Students who expect to prepare themselves to study Veterinary Medicine should enroll in this Department where they will be under the guidance of the Veterinarian on the staff. Their work will be outlined so as to furnish the courses required for entrance into veterinary colleges.

Dairy Husbandry.—Students majoring in Dairy Husbandry are offered specialized courses in (1) Dairy Production and (2) Dairy Manufacturers. Training in Dairy Production will prepare students for the operation of modern dairy farms; for positions in Agricultural Extension and Breed Association work: and for field, sales, and technical positions in the Dairy Farm Equipment and Feed industry and for commercial dairy concerns.

Training in Dairy Manufacturers is particularly well suited to prepare students for executive and administrative positions in creamery and other dairy establishments. It also prepares for plant and laboratory positions in milk and milk processing plants; and for inspectors of dairy products and dairy establishments in Federal, State and Municipal service.

Both of these fields offer a broad fundamental training for those intending to pursue graduate study in preparation for more specialized work in dairy and related industries.

The dairy herd on the Campus, together with the daily operations in the market milk pasteurizing and ice cream units at the dairy building, contribute to the practical training of students in any one of several lines of the dairy industry.

The Dairy Husbandry laboratories located in the Dairy Building and in the Dairy Barn are well equipped for instructional purposes. The equipment includes power churn, power separator, pasteurizers, coolers, ice cream freezers, bottler, two mechanical refrigeration units, a homogenizer, and a soaker-type bottle washer. The milk testing and bacteriological laboratories are equipped for milk testing and inspecting, and for dairy bacteriological testing.

Entomology.—The Department of Entomology offers various courses for students who wish to specialize in the study of insects, insect life, and in the control of insects. Although the field of employment is limited, there are definite opportunities available to those who are qualified. The majority of these opportunities are in the public service, although commercial and industrial firms also employ college graduates who have specialized in this field.

Students desiring a broad fundamental training in Entomology and related fields will follow the program outlined as General Entomology. Those desiring to specialize in Chemical Control of insects, and who plan to take graduate work leading to a professional degree in that field, will follow a program to be outlined for Insect Toxicology. These students will be expected to take considerable Mathematics and Chemistry.

Students planning a career in Entomology are urged to consult with their adviser regarding the selection of electives best suited to their needs.

FORESTRY.—The training and instructional work in Forestry is intended to meet the needs of three classes of students: (1) those who wish to secure four years' training in Forestry; (2) those who wish to fit themselves for work in Game Management; and (3) those who desire a foundation for professional or graduate work in Forestry. All students take approximately the same program during the first two years, although it is necessary to make certain decisions rather early in the course. During the summer following their Sophomore year all foresters are required to attend an eight weeks' session of summer camp. Those who concentrate on Game Management will be required to spend an additional summer at camp, preferably at the end of their Junior Year. (See pages 39 and 43.)

General Group.—This group includes those students who wish to secure a sound training in Forestry, but who do not care to spend more than four years in college. Considerable latitude is given in the courses which the student may elect, but his efforts are directed toward securing a good general education.

Game Management Group.—The Game Management Curriculum emphasizes this field while giving the student an adequate training in General Forestry. This combination is essential, as a large part of the country's wildlife program of the future will be handled by men employed primarily as Foresters.

Profesional Group.—This program of study is designed to fit the student for advanced work at some other institution, where he will be able to satisfy the requirements for the degree of Master of Forestry in one year. Students who plan to enter the United States Forest Service, to become teachers, research workers, or Consulting Foresters, should elect this course. The requirements, however, are high, and only the best students will be encouraged to undertake it.

HORTICULTURE.—Conditions of climate, soil, and market combine to make New Hampshire a state with great future horticultural possibilities. Accordingly, the Department of Horticulture, with its excellent facilities and staff, offers instruction in three major fields, Pomology

(fruit growing), Olericulture (vegetable growing), and Ornamental Horticulture with particular emphasis on Floriculture, Propagation, and Greenhouse Management.

Students who graduate with a major in Horticulture will have received the liberal training expected of a university graduate, a thorough preparation in the fundamental sciences underlying all intelligent plant production, adequate training in General Horticulture, and, finally, specialization in the field chosen. Probably few students in Horticulture should take exactly the same courses after the Sophomore year. The courses are designed to fit the student for intelligent and resourceful improvement, production, and marketing of fruits, vegetables, plants, or flowers. The training is such that superior students who wish that type of work can pass the Civil Service examinations required for entrance into positions with the United States Department of Agriculture. Such students may also find positions in research, teaching, or extension connected with agricultural colleges, although it is generally expected that they will take graduate work if they intend to enter this professional field. In the past, good New Hampshire graduates have had little difficulty in securing fellowships or scholarships in other colleges and universities.

Major students in the Department must elect a minimum of 11 semester credits in Advanced Horticulture and related courses, in addition to Hort. 2, 13, 91, 92, and 94, required of all majors. A special effort is made to see that outside work during the college year and work done during the vacation periods will provide sufficient practical experience before a student graduates, so that he has more than a theoretical knowledge of his profession. The extensive University orchards, gardens, and greenhouses are used as laboratories.

Poultry Husbandry.—The Curriculum in Poultry Husbandry has been designed to offer students fundamental and special training in the practical and professional fields of Poultry.

The program of study prepares students for various lines of work such as: production, sales and service with feed and equipment manufacturing concerns; marketing organizations, handling poultry and eggs; commercial hatcheries; poultry farm managers, as well as for the operation of their own farms. By supplementing his undergraduate work with one or more years of graduate study, superior students will find opportunities in the professional fields of teaching, extension, and research.

Major students are expected to take all courses offered in the Department. In addition, selected courses in other departments of the College are required in support of, and as a supplement to, the instruction given in the Department. However, the student elects these courses under guidance and considerable latitude is offered. Special attention is given to the interests and ability of each student.

The Department works closely with the poultry industry in the state. This industry ranks high among those in the country. In this connection, frequent and full discussion is given in the classroom to broad problems of the industry.

A brief but comprehensive period of practical work is offered for those who lack sufficient experience in the actual care and production of chicks and laying birds. All of the facilities of the University Plant are available for such students. This plant is stocked with both chickens and turkeys, and has modern equipment for carrying on its work.

Teacher Preparation.—Under the provisions of the Smith-Hughes Act, the University of New Hampshire has been designated as the institution in this state for the preparation of Teachers of Agriculture. Vocational Agriculture offers a fertile field for young men desirous of following the profession of teaching. The work is varied and interesting with opportunities for wide community contacts through the all-day, part-time, and evening school programs.

Agricultural teachers are encouraged to enter upon a program of graduate study as a means of professional growth. Successful completion of such study should result in greater opportunities for advancement in the field of Agricultural education.

Due to the nature of the duties performed by the teacher of Agriculture it is essential that the student get a good foundation in all of the predominating agricultural enterprises of the state. His course of study, therefore, will follow a broad general program rather than a specialization in any one particular field. Furthermore, he must meet the state requirements for certification which includes one semester of practice teaching, eight additional credits of courses in Education and eight credits of Agricultural Engineering.

THE APPLIED FARMING COURSE

A Two-Year, Non-Degree Curriculum

For one reason or another many young people find it unfeasible to attend the College of Agriculture for four years as a candidate for an academic degree. The Applied Farming Course at the University of New Hampshire offers to such young men and women who are interested in farming and allied occupations the opportunity to secure scientific and practical agricultural training in two years of study. This vocational course is designed particularly for those who wish to become farmers or to seek employment in related activities. Some of the more common types of opportunities available for the two-year student follow:

Farming—owner, renter, operator
Farm Manager or estate superintendent
Herdsman or assistant

Milk plant operator or assistant
Poultry plant foreman
Feed and fertilizer store operator or assistant
Greenhouse or landscape work
Skilled worker for nurserymen and seedsmen
Farm machinery worker—sales, service, or operation
Worker in retail agricultural marketing
Milk testers
Caretaker of estate
Superintendent, foreman or worker in parks
Worker in a commercial dairy manufacturing and distributing plant

Admission Requirements

The Applied Farming Course is open to both young men and young women. Graduates of high schools will be admitted irrespective of age. Applicants who are not high school graduates must be eighteen years of age and must have had at least two years of high school work or its equivalent. Judgment and understanding will be carefully considered in determining those who will be admitted. A farm background, though not required, will prove exceptionally valuable.

Requirements for Graduation

The Applied Farming Course requires two full years for completion of instruction. It is possible, however, for persons to come for only one, two, or three semesters and yet gain a great deal of first-hand, valuable information, even though they do not see their way clear to complete the full course. Upon satisfactory completion of two full years of instruction with a minimum of 60 semester credits, a certificate of graduation will be awarded.

In addition to intensive training on Campus, students are required each year to complete a supervised placement program, adapted to the interests of the individual. This practical experience is under the direct supervision of the Applied Farming Staff.

Major Fields of Instruction

There are four major fields of instruction available: Dairying, General Farming, Horticulture, and Poultry. The student will select the one he wishes to pursue and may elect courses in other fields in order to provide for a well-balanced program.

Facilities for Instruction

Facilities of the University including the College Farm, Dairy Herd, Milk Plant, Poultry Plant, Horticultural Farm, Livestock Department, greenhouses, and laboratories are available for instructional purposes.

Student Aid

Employment is usually available for the student who needs it and is willing to work. Tuition Grants amounting to approximately one half the tuition are available in limited numbers for residents of the state of New Hampshire. These Tuition Grants will be awarded to such applicants as appear on investigation to be needy and deserving. It is hoped that every worthy individual who could not otherwise attend may be helped in this way. However, these funds are by no means inexhaustible and prospective needy students are urged to apply early.

Requests for Information

Persons interested in the Applied Farming Course should write for a complete descriptive catalogue. Such requests should be made to the Applied Farming Course, 6 Morrill Hall, University of New Hampshire, Durham, New Hampshire.

COLLEGE OF LIBERAL ARTS

EDWARD Y. BLEWETT, *Dean*

DEPARTMENTS

ARTS

Fine Arts, Design, Handicraft, Occupational Therapy, and Photography

BIOLOGY

Bacteriology, Biology, Botany, Zoology, Nursing, Pre-Medicine, and Pre-Dentistry

ECONOMICS AND BUSINESS ADMINISTRATION

Business, Economics, and Secretarial Studies

EDUCATION

ENGLISH

English and Publicity

GEOLOGY

Geology, Geography, and Meteorology

GOVERNMENT

Government and Pre-Law

HISTORY

HOME ECONOMICS

Home Economics, Hospital Dietetics, and Institutional Management

HOTEL ADMINISTRATION

LANGUAGES

French, German, Greek, Latin, and Spanish

MUSIC

PHILOSOPHY

PSYCHOLOGY

SOCIOLOGY

Sociology and Social Service

PURPOSE AND OBJECTIVES

The College of Liberal Arts exists to serve society through meeting the vital educational needs of students on the campus or in the state. While it prepares some students for scholarly achievement in graduate and professional schools and trains others for immediate gainful service, it develops in all of its students understandings, interests, appreciations, and abilities which make possible the living of a richer and more satisfying life.

It is the purpose of the College of Liberal Arts to help all its students to become better adjusted to the world in which they live, to increase their efficiency as students, to learn how to work and to enjoy work as well as leisure, to solve their college and life problems, and to prepare themselves for intelligent participation in the activities of modern life as socially competent human beings willing to meet their responsibilities to society.

To accomplish its general educational purpose, the College of Liberal Arts co-operates with its students in their efforts to acquire:

(1) The ability to understand and use language, particularly English, for clear and effective interchange of ideas;

(2) An understanding and appreciation of the principles of the physical and biological sciences as they apply to man;

(3) An understanding of the principles underlying the social, psychological, political, and economic activities of man;

(4) An understanding and appreciation of all peoples and their cultures, both contemporary and historical, for intelligent participation in society;

(5) An understanding and appreciation of literature and the other arts;

(6) An understanding and appreciation of the religious heritage of man and its significance for present-day living;

(7) An understanding of personal and community health;

(8) An understanding of the interrelation of the various fields of knowledge;

(9) A competence in a selected field of knowledge, based on a concentration of studies for vocational or other interests;

(10) Aid in selecting and preparing for a suitable profession or vocation;

(11) A variety of interests outside of the selected field of knowledge, for the purpose of providing avocations or occupations for leisure time in post-college days;

(12) An eagerness for knowledge as a means to continuous self-education;

(13 The ability to seek, discover, and analyze data and therefrom make valid generalizations;

(14) The ability to form unbiased and rational judgments of other individuals and their ideas;

(15) The desire to discover and accept responsibilities, for the improvement of human living;

(16) Principles and convictions about life which may change as experience increases, and upon which their whole conduct shall be founded.

Organization

The development of common interests and the co-ordination of educational efforts in behalf of students in the College are promoted by Divisional Groups, as follows: Humanities, Social Sciences, Physical Sciences, Biological Sciences, Home and Institutional Management, and

the Division of Teacher Education. The personnel of each divisional group includes all Faculty members assigned to departments of the College, and to departments of other colleges which are authorized to offer major programs or prescribed curriculums in the College of Liberal Arts.

The Humanities Divisional Group is composed of the staffs of the Departments of Arts, English, Languages, Philosophy, and Music. The Social Science Divisional Group is composed of the staffs of the Departments of Economics and Business Administration, History, Government, Psychology and Sociology. The Physical Science Divisional Group is composed of the staffs of the Department of Geology, and the Departments of Chemistry, Mathematics and Physics in the College of Technology. The Biological Science Divisional Group is composed of the staffs of the Department of Biology, and the Department of Entomology in the College of Agriculture. The Home and Institutional Management Divisional Group is composed of the staffs in Home Economics and Hotel Administration. The Division of Teacher Education consists of the members of the instructional staff of the University who are teaching professional courses in Education. These include courses in the problems of teaching the subjects taught in the public schools and the courses in Physical Education, in Music, and in the Arts, and are designed to prepare teachers and supervisors.

The offerings of the College of Liberal Arts are divided into two groups: the General Liberal Arts Curriculum and the Prescribed Curriculums. The University Teacher Preparation Curriculums are described on page 136.

The General Liberal Arts Curriculum

The General Liberal Arts Curriculum is intended primarily to give opportunity for a broad, liberal program, a general education leading to the B.A. or B.S. Degree.

The Degree of Bachelor of Science is conferred upon all students who have majored successfully in the General Liberal Arts Curriculum in one of the following: Bacteriology, Biology, Botany, Chemistry, Economics, Education, Entomology, Geology, Home Economics, Mathematics, Meteorology, Physics, Sociology, and Zoology. The Degree of Bachelor of Arts is conferred upon all students who have majored successfully in the General Liberal Arts Curriculum in one of the following: the Arts, English, French, German, Government, History, History and Literature, Latin, Music, Psychology, and Spanish.

A student enrolled in the General Liberal Arts Curriculum will major as indicated above in some subject or field of knowledge. Some of these major programs offer, at least in part, direct vocational training. The General Liberal Arts Curriculum must not be confused with the Prescribed Curriculums. The latter are essentially vocational in character.

The objectives, opportunities, and requirements of majors in the General Liberal Arts Curriculum are described in the paragraphs which follow. It is possible, also, for students in the General Liberal Arts Curriculum to arrange programs of study in addition to those described below, although such students will be held strictly to the University and College requirements of the General Liberal Arts Curriculum. Students interested in arranging special programs of study should consult the Dean of the College.

The Arts

The courses in this Department are designed to develop intelligent enjoyment and a critical understanding of art, and to provide facilities for creative expression.

Several types of programs may be arranged for individual students. For some who have special creative abilities there are courses in Painting, Sculpture, Ceramics, Pictorial Photography, and Design. For others interested primarily in the application of art to business and industry, there is opportunity for study in Industrial Design, Advertising Art, Photography, Interior Decoration, and Costume Construction and Design. The Department also offers opportunity to all interested particularly in the critical appreciation of art.

Students majoring in those other areas in which a knowledge of art is desirable, such as Business, Education, Publicity, and Hotel Administration, should consider taking one or several courses in the Arts.

Students interested in teaching Art in the secondary schools are advised to consult the Art Education Curriculum (see page 144).

Students majoring in the Arts are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108. They must also earn major grades in 27 semester credits in courses in the Arts. The following courses are required for Arts majors: Arts 23, Elementary Drawing and Design (does not carry major credit); 31, 32, Introduction to the Arts. Courses in Dramatics, Literature, Music and in the Social Sciences may be approved as related work for a major in the Arts with the consent of the Supervisor. The courses of each major program are selected to meet the needs of the individual student, as determined by the student and his Faculty Adviser in personal conference.

Students interested in majoring in the Arts are advised to consult with the Supervisor, Professor G. R. Thomas, in his office in room 304, DeMerritt Hall.

Bacteriology

Students interested in the study of bacteria and related micro-organisms should register as majors in Bacteriology. Such students may pre-

pare themselves for positions with state, city, and private hospital laboratories or with university, experiment station, public health, and industrial organizations. The program is arranged to meet the needs of two groups of majors; i.e., those who plan to obtain employment as laboratory technicians after receiving the B.S. degree and those who plan to take graduate work in Bacteriology, which is necessary for advancement and preferred employment in the field.

Students who major in Bacteriology are expected to meet in full the requirements of the General Liberal Arts Curriculum which are set forth on page 108. They are expected also to complete, with major grades, courses offered by the Department, and by related departments, to a total of 27 semester credits. A course in Organic Chemistry is also required for Bacteriology majors but cannot be counted as part of these 27 major credits. The courses of each major program are selected to meet the needs of the individual student, as determined by the student and his Faculty Supervisor in personal conference. Since majors in Bacteriology receive a thorough basic training in other Biological Sciences and in Chemistry, they have considerable opportunity to select the field of work they will be particularly interested in after graduation.

Students interested in majoring in Bacteriology are advised to consult with the Supervisor, Professor L. W. Slanetz, in his office in room 215, Nesmith Hall.

Biology

Students interested in a broad training in the various life sciences are advised to major in Biology. Such students will find it possible to use courses in Bacteriology, Botany, Entomology, and Zoology in building up a program that will fulfill their particular requirements. The field, however, is so inclusive that the majority of students will find it desirable to carry a large part of their work in one of the subdivisions such as Bacteriology, Botany, or Zoology. In addition to those students who desire Biology for its cultural background, it is suggested that students interested in *biological laboratory technique, Fish and Game Management, Applied Biology, and secondary school teaching* register as Biology majors.

Secondary School Teaching.—Students planning to teach Biology in secondary school are strongly urged to plan for cadet teaching during their Senior year. Since few positions are available in any year for the teaching of Biology alone, a student should consider a program of study which may qualify him for the teaching of other sciences also.

Applied Biology (Fish and Game Management, etc.).—Students preparing for positions which involve the application of the Science of

Biology, such as those frequently listed by the Federal Civil Service and by the State governments, should concentrate in the field of Applied Biology. The Department is especially fitted to prepare students for work in Fish and Game Management. Students preparing for professions in this group should plan to secure advanced degrees since positions in these fields are difficult to secure without post-graduate training.

Biological Laboratory Technique.—In consequence of the increasing number of intricate and lengthy procedures in the Biological laboratory, the independent investigator or physician is unable to accomplish much without trained assistants. Those assistants who become specialists in certain phases of laboratory work are known as technicians. The successful technician is not a mere robot or skilled laborer but must be a person with the background and training which enables him to assume responsibility for accurate analysis. Some of the most famous scientists began their careers as technicians.

After completing his basic training in Biology and Chemistry, the student may find employment in many fields. The technician in a clinic or hospital may make routine urine analyses, blood and bacteriological tests, and prepare sections of tissues. The private physician may employ a technician for both laboratory and office work. Nurses with training in laboratory technique are assured of excellent positions. Biological laboratories and supply houses employ technicians to make slides and other preparations for schools and museums. Many technicians, with a year or two of experience, obtain positions in Federal, State, or City Public Health Laboratories. The government is taking more and more interest in public health and recently large sums of money were set aside for work in this field. Scientists in government positions, universities, colleges and private foundations have technicians prepare slides and carry on many routine experiments. In smaller institutions and in experiment stations a technician may have other duties such as teaching and maintaining a dispensary. In museums they prepare slides, models, skins, and plant and animal habitat groups. Large drug companies hire technicians to test the effect of chemicals and drugs on animals.

The program to be followed by a student who plans to become a laboratory technician will depend upon his objective—whether preparing to become a laboratory technician in a hospital, or in a public health clinic; a doctor's assistant and secretary; or a technician in connection with some of the private industries.

Students interested in medical laboratory technique are strongly advised to plan to become medical technologists. These are highly trained technicians who have passed a course accepted as adequate by the American Medical Association. This involves an exacting training including Zoology 57, *Laboratory Technique;* Zoology 53, *Histology;*

Chemistry 25, *Quantitative Analysis;* Chemistry 45, *Organic Chemistry;* and Agricultural Chemistry 51-52, *Physiological Chemistry;* Physics 1, 2; Bacteriology 1, *General Bacteriology;* Bacteriology 52, *Pathogenic Bacteriology;* and Bacteriology 53, *Immunology and Serology.* Twelve months' additional training in an approved hospital is required for registration as a medical technologist. Technologists with such training are rapidly replacing the ordinary laboratory technician.

Students interested in becoming medical secretaries or doctors' assistants should follow a program similar to that of laboratory technicians and in addition should have two years of typewriting and shorthand.

Students who major in Biology are expected to meet in full the requirements of the General Liberal Arts Curriculum with major grades in 27 semester credits of work in Biology (exclusive of Biology 1-2). Students interested in majoring in Biology are advised to consult with the Supervisor, Professor C. F. Jackson, room 101, Nesmith Hall.

Botany

Students interested in plant life are advised to consider registration as majors in Botany. Students majoring in Botany who desire to go into Federal or State Government services, Government or private research or college teaching should prepare to undertake graduate study. Positions in State and Federal work in plant disease study, crop production, and related economic fields are available. There are also positions open to graduates of the College of Liberal Arts in business and professional areas where some knowledge of Botany is required. Botany has long been recognized as a basic course in the College of Agriculture, but few people have realized the importance of plants in the environment of every individual regardless of his occupation. Food, fabrics, and fuel are largely derived from plants. It is desirable, therefore, that every person get some understanding of the nature of plants.

Students who major in Botany are expected to meet in full the requirements of the General Liberal Arts Curriculum which are set forth on page 108. They must also complete, with major grades, courses offered by the Section, and by related departments, to a total of 27 semester credits. These 27 credits may be earned in elective courses, required courses, or in both. The following courses are required of Botany majors: Botany 1 or Botany 3; Botany 5, *Plant Anatomy and Cytology;* Botany 4, *Plant Physiology;* Botany 51, *Plant Pathogy;* Botany 6, *Systematic Botany;* Chemistry 1-2 or 3-4, *General Chemistry.* Of these all but Chemistry 1-2 and 3-4 carry major credit if passed with the required grade. Other courses in Botany in addition to those listed, and also Agricultural Chemistry 1, 2; and Zoology 61, *Heredity and Variation,* are courses which may be elected by students for major credit.

The courses of each major program are selected to meet the needs of the individual student, as determined by the student and his Faculty Adviser in personal conference.

Students interested in majoring in Botany are advised to consult with the Supervisor, Professor A. R. Hodgdon, in his office in room 218, Nesmith Hall.

Chemistry

Students interested in the study of Chemistry will find opportunities in different fields such as (1) industrial work involving the development of processes or production activities or sales work based on a scientific knowledge of the marketable product; (2) the teaching of Chemistry and allied subjects in secondary schools or of Chemistry in colleges; (3) graduate study for those students who are interested and particularly proficient in their undergraduate work.

The University offers two channels for the study of Chemistry: majoring in the subject in the College of Liberal Arts, or enrolling in the Prescribed Curriculum in Chemistry and Chemical Engineering in the College of Technology. In the College of Liberal Arts a major should complete Chemistry 3-4 or 3-6, *General Chemistry,* and Mathematics 5-6 in the Freshman year, and in addition other courses offered by the Department in Analytical, Organic, and Physical Chemistry to a minimum of 27 semester credits, in which major grade requirements are fulfilled. According to the student's interests, other supporting subjects may be elected to form a broad program of study and prepare for some one of the opportunuities listed above. Majors in Chemistry are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108.

The Department is equipped to furnish the training necessary for the teaching of Chemistry in the secondary school. Since, however, very few positions are available in any year for the teaching of Chemistry alone, a student should consider a program of study which may qualify him for the teaching of Chemistry and other sciences, and should consult Professor Iddles in James Hall, and Professor A. M. Stowe of the Department of Education. Students interested in the teaching of Chemistry in college are advised to plan on graduate study. Students interested in majoring in Chemistry are advised to consult with the Supervisor, Professor H. A. Iddles, in his office in room 117, James Hall.

Economics

Students interested in the economic and business life of the nation, who do not desire to specialize intensively in the Business Curriculum (see page 125), or the Secretarial Curriculum (see page 133), are advised to consider registration as majors in Economics. Students who intend to enter upon graduate study in Economics should plan to major

in this field as undergraduates. An increasing number of opportunities in business and the public service are open to young people who possess graduate training in Economics.

Business positions in retail stores, chain stores, banks, sales organizations, and general business offices, insurance, and other firms, have been successfully filled by graduates of the University who have majored in Economics. The Business Curriculum provides specific preparation for several of these fields by reason of its specialized requirements. A student who desires breadth in his education, with an emphasis on Economics, is counselled to major in the Department.

The Department is equipped to furnish the training necessary for the teaching of Economics in secondary schools. Since, however, very few positions are available in any year for the teaching of Economics alone, a student should consider a program of study which may qualify him for the teaching of Economics and other social studies, and should consult the Supervisor, and Professor A. M. Stowe of the Department of Education.

Students who major in Economics are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108. They are required to complete successfully Economics 1 and 2, *Principles of Economics.* They are required to complete 27 semester credits of Economics with major grades. Individual programs will be arranged to meet the needs of the individual student. Related courses in other departments may be counted for major credit with the consent of the Supervisor.

Students interested in majoring in Economics are advised to consult with the Supervisor, Professor C. M. Degler, in his office in room 104, Morrill Hall. Professor Degler may assign the student, when the field of his major interest is determined, to another member of the Department who is responsible for the area of concentration selected by the student and who will be his Supervisor throughout the duration of his course.

Education

Students who are interested in preparing themselves for teaching in the secondary school and who do not desire to follow any of the University Teacher Preparation Curriculums (see pp. 138-149) should consult with Professor A. M. Stowe of the Department of Education in room 118, Murkland Hall. Under some circumstances it is possible for such students to prepare themselves for teaching as majors in the subject matter departments in which they desire to teach. In other instances, it may be wise for them to do their work as majors in Education.

Majors in Education are divided into three groups: *first,* those students who find themselves academically interested in the subject and

who intend to continue their study in graduate school. Such are required to complete 27 semester credits in Education with major grades.

A *second* group who major in Education do so to prepare to teach in secondary schools. They also are required to complete 27 semester credits in Education, with major grades, and not more than 12 credits earned in practice teaching may be counted toward the fulfillment of this major requirement. These students are also required to complete, with an average grade of at least C, (1) a teaching major of at least 24 semester credits of post-secondary school work in a subject matter department, or in a subject matter field, and (2) either a second teaching major of at least 18 semester credits or two teaching minors of 12 semester credits each.

A *third* group of majors in Education are those students who are interested in teaching or in supervising in elementary schools and who are graduates of two- or three-year Normal Schools or Teachers' Colleges. They are required to complete with grades of C or better, 12 semester credits of work in Elementary Education selected from the advanced courses in that subject offered in the Summer School as a part of the total credits which are required of them as candidates for the Degree of Bachelor of Science. The remainder of their major programs will be selected by such students with the advice and approval of the Head of the Department of Education. (See special Language and English requirements, page 109.

While some of the courses offered in Education are designed to be of interest to the general student, only those students who have definitely decided to prepare themselves for the teaching profession should seriously consider majoring in the Department of Education.

Professor Stowe is the Supervisor of all majors in Education. Arrangements will be made, however, to enable majors in Education to be advised in particular problems by members of the staff best qualified to be of service to them.

English

Students looking forward to a career in writing or journalism, to the teaching of English in secondary schools or in universities and colleges, or those who seek a broad and liberal education with the emphasis upon the study of English and American literature are advised to register as majors in English. For students who plan to pursue graduate work in English (and such work will be very necessary for those who are to teach the subject in colleges and universities), majoring in the field as undergraduates is essential.

In preparation for many varieties of work after college, concentration in the field of English during undergraduate years may prove of great value. Particularly will this be true for those who hope for careers as writers, publishers, journalists, librarians, actors, and radio broadcasters.

In conjunction with the Department of Education, the Department of English is prepared to furnish the training demanded for teachers of English in the secondary schools of New Hampshire and other states. While such students may well major in English, it not infrequently occurs that in the secondary schools the teacher is asked to teach other subjects with English, and therefore all who are seeking to fit themselves for such work should consult the Head of the Department of Education as well as the Head of the Department of English.

Students who major in English are expected to meet in full the requirements of the General Liberal Arts Curriculum which are set forth on page 108. They must also earn major grades in 27 semester credits in courses in English. These 27 semester credits may be earned in elective courses, required courses, or in both. The following courses are required for English majors: English 3, 4, *Survey of English Literature;* 11, 12, *Survey of American Literature;* 53, 54, *Shakespeare's Plays;* and 67, *Early English and Chaucer.* Students majoring in English who entered the University prior to September, 1939, are required to register for English 68 as well as English 67. Of these courses all but the first-mentioned (*Survey of English Literature*), carry major credit if passed with the grade required for majors.

English and American History, the Survey of Greek and Roman Literature, the Survey of Modern European Literature, and Linguistics may be approved by the Supervisor as related work for a major in English.

Students interested in majoring in English are advised to consult with the Supervisor, Professor H. H. Scudder, in his office in room 109, Murkland Hall. Professor Scudder may assign the student, when his field of major interest is determined, to another member of the Department responsible for that area of concentration selected by the student, such as Drama, Writing, Speech, or Teaching, who will be his Supervisor throughout the duration of the course.

The Department offers assistance to all who may need it in English composition. Those interested should consult Professor Lucinda P. Smith, room 209, Murkland Hall.

Entomology

The Department of Entomology offers various courses for students who wish to concentrate on the study of insects, insect life, and the control of insects. Although the field of employment is limited, there are definite opportunities available to those qualified. The majority of these opportunities are in the public service, although commercial and industrial firms also employ college graduates who have concentrated in Entomology. Graduate study is desirable for the student who seeks high achievement in Entomology. A more intensive program in Entomology may be secured in the Prescribed Curriculum offered in the College of Agriculture.

Students who major in Entomology are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108. They are expected also to complete successfully courses offered by the Department, and related departments, to a total of 27 semester credits, each course with a major grade. Outlines of specific, suggested programs of study are available to the student upon request to Professor J. G. Conklin, Supervisor, at his office in room 16, Nesmith Hall.

Geology

The field of Geology includes the earth sciences. This is not alone the study of minerals, rocks, and evidences of prehistoric life. It includes also the history of the earth from its beginning, as well as the evolution of the landscape, and other environmental features which have influenced the development of life on the earth, including man.

Students interested in the earth sciences, both those who expect to make some phase of Geology their life work, and those who desire to build a program of liberal studies around a core of geological and related subjects are advised to register as majors in Geology.

The search for new sources of essential mineral resources and the development of new uses for certain minerals have emphasized the need for men trained in the earth sciences. Positions as mining geologists, petroleum geologists, mine operators, state survey geologists, university and college professors of geology and mineralogy have been successfully filled by graduates of the University who have majored in Geology. Other former major students are teaching in high schools or are in business, some in fields where their geologic training is useful, as in the cement and mining machine industries.

Students who major in Geology are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108. They are expected also to complete Geology 1 and 2, *Principles of Geology,* and in addition courses in Geology or related courses aproved by the Supervisor to a total of 27 semester credits, each course with a major grade. The courses of each major program are selected to meet the needs of the individual student, as determined by the student and his Faculty Adviser in personal conference.

Students interested in majoring in Geology are advised to consult with the Supervisor, Professor T. R. Meyers, whose office is in room 205, Conant Hall. After a student's major interest is determined, the advice, assistance, and counsel of one or more additional members of the Department will be sought where a special area of concentration is contemplated by the student. For example, the student whose special interest lies in geographic or meteorologic fields will be assigned to the staff member responsible for these fields.

Government

By specializing in one of several programs in Government, the major student may prepare himself for: (1) graduate study in Political Science and Government, (2) teaching Civics and the Social Sciences, (3) Public Administration, (4) Research in Government, (5) Secretarial Work in Public Affairs, (6) Political Journalism, (7) Professional study of Law, (8) Graduate School Training in Foreign Service.

In addition to the programs mentioned, a limited number of Internships in Public Office (see course description Soc. Sci. 81, 82) have been established, which permit Senior students to obtain firsthand knowledge of public service by actually working in an office in the State Capitol for a semester, for which they receive full college credit. Majors in Government have also an unusual opportunity for mastering research techniques and information concerning the state and local government of New Hampshire in the Bureau of Government Research. (See course description.)

The student who majors in Government should meet all the requirements of the General Liberal Arts Curriculum found on page 108. It is recommended that all students who expect to major in Government elect Government 1 and 2, *Citizenship and War Problems.* All major students are expected to take Government 3-4. A major in Government consists of 27 credits of work in Government and in such related courses as may be approved by the Supervisor. Major students are also required to obtain major grades in 27 credits of work in Government. Not more than 9 credits earned in Social Science 81 may be counted toward the completion of the major requirements. The student should, in addition to his courses in Government, elect work in English, Economics, History, and Sociology which are regarded as closely related fields. Each student will be counselled individually and his program of study built according to his needs.

Students interested in electing Government as a major should consult the Supervisor, Professor Norman Alexander, in his office in room 212, Morrill Hall. Several of the programs mentioned above involve considerable work in departments other than Government. In such cases the student will be advised to consult the person in charge of such work, as for example Professor A. M. Stowe in the case of future teachers of the Social Studies, and Professor Doris Tyrrell for Secretarial Work, etc. For convenience the student should first consult Professor Norman Alexander, who will see that the proper members of the Faculty are consulted.

History

History, as a field in which to major, may be of interest to the following groups of students: (1) Those who wish to do college teaching in History. Graduate study is indispensable for such work, but prepara-

tion may be made for it by a certain amount of undergraduate specialization. (2) Those who plan to teach History in secondary schools. For such a position, training in other social studies is highly desirable, if not absolutely necessary. The student is therefore advised to keep in touch with the Department of Education as well as with the Department of History, with a view to satisfying teaching standards and building a well-rounded program of studies. (3) Those who intend to enter other professional fields in which a considerable amount of historical knowledge is desirable. Such a field, for example, might be that of Library Training, in which an historical training would rank with training in literature as a background, or the increasingly important profession of Archivist. (4) Any students who feel free to plan the college program without too specific reference to a vocation, and who have a special interest in History.

Students who major in History are expected to meet in full the requirements of the General Liberal Arts Curriculum which are set forth on page 108. They must also earn major grades in 27 semester credits in courses in History, exclusive of History 1, 2. The 27 semester credits with major grades may be earned in elective courses, in required courses, or in both. Any two semester courses, not necessarily consecutive, of the following four, are requried for History majors: History 55, 56, *The Philosophy of History,* and 67, 68, *Historical Geography and Biography.*

Any department in the College of Liberal Arts may be considered a related department, except Geology, Home Economics, Physical Education for men and women, and Biology.

Students planning to major in History should consult the Supervisor, Professor P. M. Marston, whose office is in room 209E, Morrill Hall. The student may be assigned to another member of the Department who will assist the Supervisor in advising him during his college course. His program will be planned and supervised with a view to his individual needs and plans.

History and Literature

Students who desire a broad cultural education may take a combined major in History and Literature. Students who plan to enter library service may also find here a desirable major. The program of this major offers an opportunity to study the history and literature together of Greece and Rome, of France, of Germany, or of Spain. A still broader survey of European history and literature is also possible. The program involves the completion of 27 semester credits with major grades in one of the following groups of courses, of which 12 credits should be in History, 12 in Language courses, and the remaining three in either:

(a) History 11, 12; 13, 14; 55, 56
Latin 5, 6; 7, 8; 9, 10; 51, 52; 55, 56

(b) History 9, 10; 19, 20; 55, 56
Spanish 3, 4; 7, 8; 11, 12

(c) History 15, 16; 17, 18; 19, 20; 55, 56; 63, 64
French 11, 12; 53, 54; 63, 64

(d) History 15, 16; 17, 18; 19, 20; 55, 56; 63, 64
German 11, 12; 53, 54; 57, 58; 63, 64

(e) 6 credits in either Languages 1, 2 or Languages 51, 52

6 credits in French, German, Latin, or Spanish in courses numbered 7 or higher

12 credits in courses in History in the Department of History Groups I, II.

A student who has met the major requirements in History and Literature will receive the degree of B.A. with the notation "History and Literature" on the Commencement Program.

Students' registration cards may be signed by either Professor P. M. Marston, the Acting Head of the Department of History, or Professor C. S. Parker, the Head of the Department of Languages.

Students electing Group (b), (c), or (d) will be expected to do a considerable part of their reading for the courses in History in Spanish, French, or German, respectively.

Home Economics

For many years it has been recognized that men who would be doctors, lawyers, ministers and engineers need specialized education. More recently it has been conceded that particular preparation should be given to girls who want to be hospital dietitians, food service directors, teachers of Home Economics, designers of clothing, extension workers, and followers of other women's vocations. Still more recently we have thought that successful home living, highly satisfactory to others as well as ourselves, needs special preparation also.

The Department of Home Economics sponsors for the University both kinds of programs—the professional courses which meet the requirements of the professions, and the broad general programs with many electives which give a rich foundation for successful family life and good citizenship.

Students interested in preparation for homemaking, or in obtaining a broad, general education, particularly applicable to the needs of women, are advised to consider registration as majors in Home Economics. Such a program would not be as completely professional nor would it qualify the student so thoroughly as would one of the professional curriculums. A broad, general program would serve as preprofessional preparation for further training in child guidance, positions in the clothing and textile fields, salesmanship, interior decoration, and other similar lines. Girls wishing to follow such programs

should consult with the Supervisor, Miss Verna Moulton, in her office in room 212, Pettee Hall. Several elective courses are offered for, or are open to, students who do not wish to major in Home Economics.

While a good many interesting and worthwhile vocations are open to Home Economics majors, yet there are some fields which demand Prescribed Curriculums. Special programs are arranged to train hospital dietitians (see page 126), institution administrators (see page 129), teachers of Home Economics (see page 145), and extension workers (see page 145).

Majors in Home Economics are expected to meet in full the requirements of the General Liberal Arts Curriculum which are set forth on page 108. They are expected also to complete successfully 27 semester credits with major grades in courses in Home Economics, exclusive of Home Economics 1, 2. Related courses in other departments may be counted for major credit with the consent of the Supervisor.

Freshmen who expect to take the Hospital Dietetics (see page 126) or Institutional Administration (see page 129) courses are advised to elect Home Economics 15-16, *Foods.* Those taking the Teacher Preparation Course (see page 145) should elect Home Economics 3, *Clothing Selection,* and 4, *Textiles.*

Languages

A major student in the Department of Languages may have a vocational or cultural objective. Many majors plan to enter secondary school or college teaching. For such students there is no hard and fast curriculum. The arrangement of Language courses is sufficiently flexible to meet the individual's needs. As most Language teachers are obliged to teach more than one language, or one language in combination with other subjects, students should not plan to concentrate in a single language and its literature but to map out a program including two languages (preferably French and Latin), or one language with a number of courses in English or History. Prospective teachers should consult the Head of the Department and Professor A. M. Stowe of the Department of Education. Some departmental majors plan to enter library service. Most library schools require two foreign languages.

Major students who do not plan to teach usually have a cultural objective. Here again the flexibility of the departmental offerings makes it possible to arrange individual programs for individual students. No single course in the Department is required of all majors. Some students find a special appeal in a single foreign literature and wish to explore it thoroughly. Others find that the study of two or three languages and literatures is a broadening and stimulating experience.

For non-majors, the Department offers practical courses which are a valuable aid to careers in foreign service (consular, diplomatic, commercial, military, or naval), journalism (for international news, foreign books, and the like), interpreting, translating, travel agencies, radio

announcing, etc. A knowledge of foreign languages is invaluable for the historian, the architect, the musician, the artist, the political and social scientist, for any citizen interested in foreign affairs. The biologist, chemist or physicist should always be able to read foreign articles and keep up with research in his field in foreign countries. The exchange of goods and information with South America is increasing. As most graduate schools require a knowledge of one or two foreign languages, all students who may possibly do graduate work in any field should obtain a reading knowledge of French and German. The elementary courses in French, German, and Spanish are planned particularly to help students acquire an ability to read and to speak the respective language; at the same time, through reading and oral work, the student learns something of the history, institutions, customs, and spirit of a foreign country. The study of Latin improves one's English and gives a firm basis for other language study.

For non-majors there are offered three courses which do not require a knowledge of a foreign language. These courses offer respectively a Survey of Greek and Latin Literature (in translations), a Survey of Modern European Literatures, and an Introduction to the Science of Linguistics.

Sophomores and Juniors may pursue a major in Languages; but Seniors must designate French, German, Latin, or Spanish as their particular major. Elementary courses French 1-2, German 1-2, Greek 1-2, Latin 1-2, and Spanish 1-2 cannot be counted toward the fulfillment of a major. Except for this restriction, a student majoring in one language may count approved courses taken in another language. Of the 27 semester credits which comprise a student's major, not more than six may be earned in such closely related courses in other departments as may be approved by the Supervisor. The special Supervisor for majors in Languages and in French is Professor C. S. Parker; for majors in German, Professor A. F. Buffington; for majors in Latin, Professor J. S. Walsh; for majors in Spanish, Professor J. Berzunza. All offices of the Department of Languages are in Murkland Hall.

Attention is called to the combined major in History and Literature, described on page 98 of this catalogue.

Mathematics

A limited number of vocational opportunities are available to students who major in Mathematics. Positions requiring a knowledge of Statistics are the most numerous in this field. These are found in government agencies, business, life insurance, and in several types of research. Many problems in Education, Economics, Sociology, Medicine, Genetics and other fields depend upon Statistics as a tool of investigation. For an introduction to the field, the Department offers Mathematics 61, 62, *Introduction to Statistical Methods.* This course requires the prerequisite of one year of college mathematics or its equivalent.

Many secretarial workers will find it very useful to be familiar with the fundamental principles of Statistics.

The life insurance field offers opportunities to students well trained in the mathematics of finance and insurance. This field also seems to give a good basis for those who wish to do high grade work in accounting.

Students who wish to prepare to teach Mathematics in the secondary school or in college may well select a major in the Department. Since, however, opportunities to teach only Mathematics in high schools are very limited, the student should prepare for the teaching of other subjects, as well as Mathematics, and should consult Professor H. L. Slobin and Professor A. M. Stowe of the Department of Education. Students who wish to prepare for college teaching of Mathematics should plan on graduate study.

Professor H. L. Slobin, room 1, Murkland Hall, should be consulted by students interested in majoring in Mathematics.

The student who majors in Mathematics should meet all the requirements of the General Liberal Arts Curriculum found on page 108, and should complete 27 semester credits of work in Mathematics with major grades, inclusive of Mathematics 7 and 8. Related courses in other departments may be counted for major credit with the consent of the Supervisor.

Meteorology

The Meteorology program is designed to provide basic training for those desiring to become professional meteorologists. Such courses as are provided in this program prepare the student for necessary graduate studies. Within recent years the need for meteorologists has increased rapidly in our government services, commercial airlines, and in the teaching of Meteorology.

Students who major in Meteorology are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108 of the current catalogue. They are expected also to complete courses in Meteorology and related subjects to a total of 27 semester credits, each course with a major grade.

Students interested in majoring in Meteorology are advised to consult with Professor D. H. Chapman, room 206, Conant Hall.

Music

The Department of Music offers a major program in the General Liberal Arts Curriculum for students who desire to place a mild emphasis on Music while pursuing a broad, general program of study. The study of Music history, literature and appreciation gives the student cultural values which should enrich his entire life. Music study tends to increase understanding and appreciation of other fields, includ-

ing the Fine Arts, Language, and Literature. A major in Music, however, has very limited vocational opportunities.

There is an increasing demand for qualified teachers and supervisors of Music education in the public schools. Students interested in this field are counselled to follow the Music Education Curriculum (see page 140).

Students who major in Music are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108. They must also earn major grades in 27 semester credits in courses in Music, exclusive of Music 11-12. The following courses are required of Music majors: Music 11-12, 21-22, 37-38, 47-48, and a minimum of four semester hours of credit in Applied Music, in addition to a first year of Applied Music successfully completed at the University or elsewhere.

Prospective majors in Music are advised to consult with the Supervisor, Professor B. W. Bergethon, in his office in room 101, Ballard Hall.

Philosophy

This Department proceeds on the assumption that Philosophy, which has sometimes borne the reproach of being impractical, is in reality very practical and can make its contribution to actual living. It is interested in the diffusion of the philosophic spirit among all students as well as in training Philosophy specialists. It proceeds on the belief that Philosophy is (1) an attitude, (2) a method, and (3) a body of knowledge which may greatly aid in the development of wisdom.

Students in any of the following groups may find Philosophy of value. (At present the Department does not offer opportunity for a major.)

1. Those for whom the greatest intellectual need is to become at home in the whole world of thought through an inclusive investigation of nature and man. Such individuals, equally interested in both the social studies and the humanities, but without a preference for any as a specialty, might find in the breadth and depth of Philosophy the field of partial concentration of greatest value to them.

2. Those whose interest in Philosophy, or in social or humanistic studies, suggests the teaching of Philosophy as a vocation.

3. Those planning to attend Theological Schools or to specialize in Religious Education.

Physics

Physics is perhaps the oldest of the sciences. Recent advances in Physics have opened vast new fields and have afforded glimpses of future developments never before imagined. The scientific method, the method of actively pursuing nature by questions put in the form of

controlled experiments, has created a new world of experience. Nature has been questioned in high vacuum, at low temperature, under tremendous pressure, at incredible velocities; and by means of million-volt X-rays, and gigantic cyclotrons. The new knowledge in dozens of fields has proved exceedingly useful. The development of modern industry is a lagging but accurate measure of research developments in Physical Science.

Because of its subject matter and its age the science of Physics stands on an ecxeedingly broad foundation. The basic facts of Physics are also the basic facts of other sciences. The study of Physics is necessary for those who intend to devote their lives to some field of science. For those who are not primarily interested in science, the study of Physics is perhaps the most effective way to acquire an understanding of the method of achievement in science. The study of Elementary Physics is an introduction to the methods of scientific reasoning and to the use of symbols in exact quantitative work.

Physics offers a fascinating field for concentration in the General Liberal Arts Curriculum and affords an excellent general scientific training for positions in Applied Science such as radio engnieering, aeronautics, radiology, design and development of measuring and testing equipment of all kinds. Several opportunities are open to Physics majors:

(a) Research positions in industrial concerns. Physicists are employed by companies manufacturing articles as widely different as textiles, rubber, paper, radio equipment, automobiles, aircraft, pianos, and household appliances. A second degree in Physics is desirable.

(b) Civil Service. In addition to the usual work for physicists in Civil Service, the war has created a demand for more men and women widely and thoroughly trained in Physics.

(c) College and University positions in teaching and research. Such positions are attained only after considerable graduate study. Good students often obtain graduate assistantships in institutions which afford the advantages of financial support, university teaching, and laboratory experience, and the chance to continue with advanced study.

(d) Laboratory technicians. Biological or psychological laboratories operate and maintain electrical apparatus such as amplifiers, oscillographs, automatic time recorders, signal generators for auditory experiments, potentiometers for retinal potential work, and other equipment.

(e) Secondary school teaching.

The Department is prepared to give training in Physics with the aim of fitting students either to take a place in industry, or to undertake graduate study, or to teach in high school. Students who wish to major in Physics are advised to consult with the Supervisor, Dr. Horace L. Howes, whose office is in room 111, DeMerritt Hall. After a student's

major interest is determined, the advice and counsel of an additional member of the Department will be sought where a special area of concentration is contemplated by the student.

Students who major in Physics are expected to meet in full the requirements of the General Liberal Arts Curriculum which are described on page 108. They are also expected to complete courses offered by the Department in addition to Physics 1, 2, *Introductory Physics,* up to 27 semester credits with major grades.

Psychology

Some students may wish to major in Psychology for the purposes of understanding themselves and other more adequately and of gaining knowledge of scientific methods of studying human behavior. Others may not only have these aims in mind, but also may wish to specialize in Psychology to prepare themselves for one of the following vocational objectives: (1) college teaching; (2) personnel work in industry or government; (3) supervision of psychological testing in mental hosiptals, juvenile courts, city school systems, child guidance clinics, and the United States Civil Service; (4) counseling and guidance in secondary schools and colleges.

Students who contemplate major work in Psychology as a means of preparing for a vocation should keep in mind the necessity of graduate work. For non-majors, a background of Psychology will be an asset in teaching, nursing, social work, business and industrial management, or professions, such as medicine and law, in which human relations are of primary importance.

Students who major in Psychology are expected to meet in full the requirements of the General Liberal Arts Curriculum wihch are set forth on page 108. They are required to complete 27 semester credits with major grades in courses in Psychology and in such related subjects as may be approved by the Supervisor. These credits must include Psychology 98, *Seminar;* Psychology 31, *General Psychology;* and Psychology 67, *Principles of Measurement.* Students who wish to major in Psychology are advised to consult with Professor Herbert A. Carroll, whose office is in 114 Murkland Hall.

Publicity.—The courses in Publicity, which the student will find grouped under course descriptions are those which will assist in mastering the important technique of the dissemination of ideas, as distinct from the mere expression of them. The term Publicity has been selected as one out of many available (some others being propaganda, and communications) as a general heading descriptive of the knowledge which goes into the production of the newspaper, the news magazine, the illustrated pictorial, the radio broadcast, and finally the textbook or manual of instruction.

Students interested in journalism, photography and other graphic arts, radio broadcasting, advertising, or general Publicity of any sort should consider registering as majors in this subject. It should not be neglected by all who in the interests of their professions, or their churches, societies, or other institutional activities may seek the assistance of the press or the radio.

Students majoring in Publicity are expected to meet in full the requirements of the General Liberal Arts Curriculum, which are set forth on page 108, and in addition an elementary course in a foreign language (French, German, Spanish) other than the language offered to meet the reading test required of all in the General Liberal Arts Curriculum, and English 9-10, *News Writing.* They must also complete courses offered in Publicity to a total of 27 semester credits, each course with the grade required of majors or better. The courses of each major program are selected to meet the needs of the individual students, as determined by the student and his Faculty Adviser in personal conference.

Students interested in majoring in Publicity should consult with the Supervisor, Professor Harold H. Scudder, in his office in room 109, Murkland Hall.

Sociology

Students who plan to make social work their professional interest are advised to follow the Social Service Curriculum (see page 123). Those wishing to acquire a thorough knowledge of contemporary society, what it is, how it came to be so, the fundamental laws operative within it and the interrelation of the processes, agencies, and institutions, its problems, controls and trends should consider registration as majors in Sociology. It is well recognized that success in any business or profession in our complex society rests as much upon social awareness and understanding as upon technical knowledge and skill.

Students looking toward a career in law, medicine, the ministry, as well as those desiring a sociopsychological background for commercial, industrial or financial pursuits would do well to supplement their majors by basic courses in Sociology.

The Department is equipped to provide the necesary training for teachers of Sociology in secondary schools. As such teachers usually have to teach related social studies, students should consult Professor C. W. Coulter, Head of the Department, and Professor A. M. Stowe of the Department of Education about work supplementary to the major.

Students majoring in Sociology are expected to meet in full the requirements of the General Liberal Arts Curriculum (see page 108). They are expected to take Sociology 1, *Principles of Sociology,* and 2, *Social Psychology*, and, in addition, a minimum of 27 semester credits with major grades in the major field, including Sociology 75, *Methods of Social Research,* or 84, *Methods of Social Progress,* and at least six

semester credits of advanced work in one or more of the following correlated subjects: Economics, Government, History, Psychology, Home Economics, or Zoology, depending upon their vocational interest.

Students interested in majoring in Sociology are advised to consult the Supervisor, Professor Coulter, in his office in room 201, Morrill Hall.

Zoology

Zoology is the science of animal life; the study of the structure, functions, development, nomenclature, and classification of the various animal forms. The student in Zoology may prepare himself for graduate work in pure science, or in Applied Zoology. Fish and Game Management, important in the conservation of our natural resources, is an example of Applied Zoology. Several of the branches of Zoology, such as Ornithology, Mammalogy, and Ichthyology are important fields in both pure and applied science. Entomology, another branch, ranks as a separate science. As another major subject of study it is treated elsewhere in this bulletin.

All students majoring in Zoology are expected to meet the requirements of the General Liberal Arts Curriculum, with major grades in 27 semester credits of work in Zoology. Related courses in other departments may be counted for major credit with the consent of the Supervisor. Biology 1-2, however, may not be counted for major credit.

Students interested in any one of the varied programs available in Zoology are advised to consult with the Supervisor, Professor C. F. Jackson, room 101, Nesmith Hall.

OTHER PROGRAMS OF STUDY

Although pursuing his studies in the College of Liberal Arts in one of the major fields just outlined, the student may also prepare himself for some related objective which he may have in mind. Three of these are described below, and there is enough freedom of election to make it possible for the student in consultation with his Supervisor to arrange others.

Institutional Management

The student who wishes to work in the field of Institutional Management (the care and maintenance of any form of household from the individual family dwelling, to the hotel, hospital, sanitarium or other housing of the many) will find in this catalogue under the offerings of the Departments of Home Economics, Hotel Administration, and Economics and Accounting a variety of courses fitted to his needs. Such students should consult for further information on this subject Professor Helen F. McLaughlin or Professor Raymond R. Starke.

Pre-Law

While the bar associations and law schools do not prescribe a specific undergraduate curriculum for future lawyers, they do recommend that a student who contemplates entering law school should plan a study program which will develop breadth of view and facility of expression. They also urge him to acquire a background of information concerning the society in which he lives and the forces which have shaped modern institutions.

The courses considered most helpful are those developing oral and written expression; dealing with man's social, economic, and political institutions; providing an understanding of the human mind; and developing the art of thinking. Finally, since the case method of study is used in law schools, courses devoted to the intensive study of the subject matter are considered helpful as an introduction to the materials and the discipline which the student will experience in law school.

Students who plan to enter law school after graduation are advised to counsel with Professor Norman Alexander, room 212, Morrill Hall, as soon as they have made their decision.

Public Health Work.—Many students become interested in Public Health work through their study of Hygiene and Sanitation. This is a rather new and growing field which demands special postgraduate training at recognized schools of Public Health. Students interested in this field should elect courses leading to the particular line of Public Health work in which they are interested; for example, training for administrative work would involve Economics, Sociology, and Psychology, in addition to Science training; training for work as Sanitary Inspector would involve courses in the College of Technology such as Sanitary Engineering. In the higher positions in this field an M.D. degree is necessary in addition to the special training.

Requirements for Degrees in the General Liberal Arts Curriculum

Each candidate for a degree in the General Liberal Arts Curriculum must complete successfully 140 semester credits of which 70 must be with a grade of C or better, and in addition must complete the requirements given below and those of the major field as stated in preceding paragraphs.

A. *General University Requirements*

Physical Education for Men	Freshman and Sophomore Years
Physical Education for Women	Freshman, Sophomore, and Junior Years
Military Science for Men	Freshman and Sophomore Years

B. *Special Freshman Requirements*

The completion of the following special Freshman courses:

*Introduction to Contemporary Civilization, History 1 and 2

*A Biological Science (Biology 1-2, or a Physical Science (Chemistry 1-2; †Chemistry 3-4; Geology 1-2; or Physics 1-2)

C. *Special Language and English Requirements*

All students pursuing the General Liberal Arts Curriculum are required to pass a reading test in French, German, Latin, or Spanish before graduation. This test will be based on two years of secondary school language training. Graduates of Normal Schools or Teachers' Colleges who are pursuing the General Liberal Arts Curriculum to qualify for a degree in the field of elementary education, are exempt from the language requirement.

In addition to meeting the requirements of English 1, six semester credits of English are required for graduation. Not all English courses may be used to meet this requirement. See page 95.

D. *Group Requirements*

Students are required to complete one year, elected from each of the following three groups of courses. Not less than one year's work in any given course shall count toward the fulfillment of this requirement.

A student whose major is included in Groups I, II, or III shall present for the satisfaction of that group requirement some course outside of his major field, one not offered in fulfillment of any other college requirement. A student may not offer in fulfillment of the Group I requirement the elementary course in the language in which he satisfies the special Language requirement. The rule presented in the two preceding sentences applies to each student who enters the College subsequent to the spring Commencement of 1943.

‡Group I:

(a) Mathematics
(b) History
(c) English, French, German, Greek, Latin, Spanish

Group II:

A Biological Science (Biology 1, 2) or a Physical Science (Chemistry 1, 2; †Chemistry 3, 4; Geology 1, 2; or Physics 1, 2). Students electing a biological science during their Freshman year must elect a Physical Science during their Sophomore year, or *vice versa*.

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*Not counted toward fulfillment of major or group requirements.

†Chemistry 3–4 is required for Pre-medical students and recommended for all who intend to take advanced work in Sciences.

‡No portion of the six semester credits of English specified in paragraph c above may be used to substitute for English in Group I.

§Group III:

Economics, Education, Government, Psychology, Philosophy, Sociology.

E. *Major Requirements*

Each student pursuing the General Liberal Arts Curriculum shall select before the end of the second semester of the Freshman year a major department in which he must pass courses to a total of 27 semester credits with a grade of C†* in the 27 and not less than B in 12 of these 27. Courses in other departments closely related to the major courses may be counted with the consent of the major Supervisor. Departments may designate in the catalogue in their descriptions of courses those which will not count for major credit.

F. *Miscellaneous Regulations and Information Pertaining to All Students in the College of Liberal Arts*

1. Seventeen to 18 semester credits will constitute a normal semester program. Any student registering for less than 14 or more than 20 semester credits must receive the permission of the Dean.

2. Students who are *bona fide* candidates for teaching positions may use Physics 15, 16 to fulfill the Physical Science requirement, with the permission of the Head of the Department of Education and the Dean of the College. Generally, only students preparing to teach English, Languages, or the Social Studies may be permitted to make this substitution.

3. All Freshmen in the College of Liberal Arts are assigned on registration to Advisers who counsel them until they have selected major fields or prescribed curriculums.

4. To substitute in his program other courses for those required of him, there are special regulations. The student should consult his Adviser or Supervisor.

5. Students in both the General Liberal Arts Curriculum and Prescribed Curriculums are advised against over-specialization. Although no attempt is made to limit by regulation the number of courses in a major or the professional courses in a Prescribed Curriculum, more than 40 semester credits in courses in the major subject, or more than 72 semester credits in professional courses in a Prescribed Curriculum,

§Psychology 11 and Education 42 may be combined to meet this requirement. In all others cases the year's work must be in the same subject.

†Any student who acquired major credit prior to October 1, 1944, may satisfy his major requirements with grades of 75 or better, or C or better.

*For any student whose major-grade requirements are 24 semester credits in the major and who had no major grades recorded as of October 1, 1944, the major grade requirements shall be 24 semester credits with grades of C or better, of which 9 semester credits shall be grades of B or better.

are deemed to constitute excessive concentration. Supervisors will counsel students who seem to be concentrating to their detriment to elect courses more likely to contribute to the breadth of their education. The Dean of the College will consult with the Supervisors with regard to over-specialization as it may appear in the programs of individual students.

UNIVERSITY OF NEW HAMPSHIRE

GENERAL LIBERAL ARTS CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
Mil. Sci. 1, 2	1½	1½
Phys. Ed. 31, 32 *For men*	½	½
Phys. Ed. 1, 2 *For women*	1	1
Phys. Ed. 1.5, 2.5 *For women*	1	1
Hist. 1, 2 *Introduction to Contemporary Civilization*	3	3
†A Biological Science (*Biol. 1–2*) *or a Physical Science* (*Chem. 1–2;* ★*Chem. 3, 4; Geol. 1–2; or Phys. 1–2*)	4	4
Electives to meet semester requirements		
	17	17

†Students electing a Biological Science during their Freshman year must elect a Physical Science during their Sophomore year, or *vice versa*.

★*Chemistry 3, 4* is required of Pre-medical students and recommended for all who intend to take advanced work in Sciences.

Sophomore Year

	First Semester Credits	*Second Semester Credits*
Mil. Sci. 3, 4	1½	1½
Phys. Ed. 3, 4 *For women*	1	1
Phys. Ed. 33, 34 *For men*	½	½
*Eng.	3	3
Elect one year's work from each of the three following groups:		
Group I. Math., Hist., Lang., or Eng. (*A second year of English*)	3	3
Group II. †A biological science (*Biol. 1–2*) or a physical science (*Chem. 1–2;* ★*Chem. 3, 4; Geol. 1–2;* or *Phys. 1, 2*)	4	4
Group III. Econ., Educ., Govt., Phil., Psych., Soc.		
Electives to meet semester requirements	3	3
	18	18

Junior Year

Phys. Ed. 5, 6 *For women*	1	1
Major courses and electives to meet semester requirements		
	18	18

Senior Year

Major courses and electives to meet semester requirements		
	17	17

*A year's work in English is required but may be taken during the Freshman, Sophomore, Junior, or Senior year. See special Language and English requirements.

†Students electing a Biological Science during their Freshman year must elect a Physical Science during their Sophomore year, or *vice versa.*

★Chemistry 3, 4 is required for Pre-medical students and recommended for all who intend to take advanced work in Sciences.

Detailed description of this curriculum appears on page 87.

UNIVERSITY OF NEW HAMPSHIRE

PRESCRIBED CURRICULUMS

Several prescribed programs of study intended to provide training for business or professional life are available to students in the College of Liberal Arts. They are arranged in such manner as to permit considerable intense specialization while conserving the breadth and general culture of the students enrolled in them. They are less broad and general, however, than the General Liberal Arts Curriculum. They are definitely vocational in character. All Prescribed Curriculums lead to the Degree of Bachelor of Science.

Business Curriculum

The Business Curriculum is designed to afford students an opportunity for training in basic business procedures and operations and at the same time to secure training in general cultural subjects. Business positions in retail stores (both independent and chain), banks, offices of public accountants, offices of manufacturing concerns, insurance organizations and other firms have been successfully filled for a number of years by graduates of this Curriculum.

Women students interested chiefly in the secretarial phase of commercial life are referred to the Secretarial Curriculum described on page 119.

The Business Curriculum has been planned to emphasize foundation or cultural courses in the Freshman and Sophomore years, the specialized business courses being largely reserved for the Junior and Senior years with rather wide elective opportunities in the Senior year. The program is outlined in detail on page 125. Students registered in the Curriculum are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124. Business students must obtain major grades in 27 semester credits from the following courses: Accounting 1, 2, 3, 4; Economics 1, 2, 3, 4, 21, 22, 24, 53; English 35.

Students interested in Business are advised to consult the Supervisor, Professor A. W. Johnson, in his office in room 302, Morrill Hall.

Hospital Dietetics Curriculum

Hospitals, clinics, and various public and private health agencies employ dietitians to give advice on proper diets for the preservation of health or the treatment of disease, or to administer dietary departments in institutions caring for sick people. The American Dietetic Association sets up certain standards for such curriculums, and the New Hampshire program is set up according to the Association's specifications. See page 126.

In addition to the four-year program of work at the University, the student must successfully serve for one year as an intern in the dietary department of an approved hospital if she wishes membership in the

American Dietetic Association, or to obtain a position in an approved hospital. On occasion, smaller hospitals give graduates positions as assistant dietitians without the fifth year of hospital training, but students interested in the hospital field are strongly urged to serve a year as interns if at all possible. The conditions under which this work may be taken vary with the hospital. Some of the best hospitals in this part of the country accept high-ranking New Hampshire graduates.

It is further recommended that students register for the course, Home Economics 48, *Field Work in Institutional Practice and Extension,* see course description, during the summer between the Junior and Senior years in order to test out their interest in and aptitude for hospital work before registering for the final work of the Senior year.

Basic courses in both the Physical and Biological Sciences are included in this program. General courses are not neglected, and there are some opportunities for electives. In addition, practical training and experience are given in the University Dining Hall where modern equipment and food service practices are actually demonstrated.

The Hospital Dietetics Curriculum is essentially vocational. Students interested in broad, general programs with a mild emphasis on Home Economics are counselled to major in the field in the General Liberal Arts Curriculum, and should consult page 99.

Students interested in teaching Home Economics in secondary schools or in colleges should consult the description of the Home Economics Teacher Preparation Curriculum which appears on page 139.

Students registered in the Curriculum are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124. Those interested in Hospital Dietetics are advised to consult the Supervisor, Professor Helen F. McLaughlin, in her office in room 208, Pettee Hall.

Hotel Administration Curriculum

Young men and women to whom a career in hotel work makes an appeal are invited to follow this Four-Year Curriculum. Hotel work is no sinecure; hard labor and long hours are the inevitable condition of final success. The details of the Curriculum will make these facts evident.

To do well in Hotel work requires on the part of the student real effort, and the eventual acquirement of wide knowledge in an extensive range of subject matter. On the other hand, there are many positions open to Hotel graduates, and the Hotel industry is an expanding one.

The Four-Year Curriculum is designed to give the student the well-rounded education demanded of the Hotel executive, and is not confined strictly to vocational work. The program includes, besides vocational subjects, cultural courses in History, Economics, English, and the Sciences.

The basic work comprises four main divisions: Foods, Engineering, Accounting, and Hotel Management Problems. About three-fifths of the total Curriculum is prescribed by the requirements of the Department in these four groups, together with the University and College requirements, leaving about two-fifths of the time open for electives in allied subjects or others of the student's choice.

To make certain that the Hotel educational program contains some experience under working conditions, each student is required to secure before graduation a minimum of twenty points of Hotel practice credit in addition to the requirements for the Hotel Administration Curriculum. This will be gained through work in hotels where supervision will be authorized, regular reports submitted by the student, and the grade of work reported by the employer. Each week of work will constitute one point. Not more than twelve points may be secured for any one type of work performed, nor more than twenty points from a given hotel.

The program is outlined in detail on page 127. Students registered in the Curriculum are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124.

Students interested in Hotel Administration are advised to consult the Supervisor, Professor R. R. Starke, in his office in room 219, Murkland Hall.

Institutional Administration Curriculum

Trained managers of the dietary and residence departments of various institutions are in great demand today. Students interested in preparing themselves to become food service directors in schools, colleges, tea rooms, and various private and public institutions are advised to register in the Institutional Administration Curriculum and should consult the detailed requirements of the program which are set forth on page 129. The major emphasis of this program is in feeding groups of normally healthy people. Students who are interested in food problems of people in poor health who have to be treated in hospitals or clinics are advised to follow the Hospital Dietetics Curriculum, which is described on page 126.

The Institutional Administration Curriculum, which is administered by the Department of Home Economics, provides a good foundation in the Physical and Biological Sciences, some general education obtained through elective courses, and affords a limited opportunity of securing practical experience, through work and observation, in feeding large groups of people, accomplished under the supervision of trained dietitians, in the University Dining Halls. The successful completion of this Curriculum qualifies the student to be a dietitian in a small institution or an assistant dietitian in a larger one, from which latter position she may advance to the position of Head Dietitian.

The Curriculum is essentially vocational. Students interested in broad, general programs with emphasis on Home Economics are counselled to major in the field of Home Economics in the General Liberal Arts Curriculum and should consult page 99.

The courses in the program are based upon the Physical, Biological and Social Sciences. The technical work in Foods, Nutrition, and Dietetics is based on the principles of Chemistry and Physiology. That in Sanitation necessitates a knowledge of Chemistry and Bacteriology. Provision is also made in the Curriculum for a student to earn college credit for successful summer field work in an approved institution. The field demands an intensive and thorough training, but the employment opportunities are extensive and varied enough to make it worth the effort and time of the average student.

Students registered in the Curriculum are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124. Students interested in Institutional Administration are advised to consult the Supervisor, Professor Helen F. McLaughlin, in her office in room 208, Pettee Hall.

Nursing Curriculum

Any woman student interested in nursing as a career is encouraged to consider the Nursing Curriculum. It affords opportunity for examinations for registration as a nurse and enables the matriculant, also, to secure a college degree. The breadth of training beyond that usually received in a hospital training school is increasingly in demand, particularly for those who aspire to executive or supervisory positions. The Curriculum prepares for nursing and also permits the student some specialization in other fields related to nursing.

The student must satisfactorily complete three years of work in residence at the University of New Hampshire, and graduate from a school of nursing approved by the University. The length of the training period will vary with the several schools of nursing.

A student registered in the Curriculum is held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124.

Students interested in selecting the Nursing Curriculum are advised to consult with the Supervisor, Professor C. G. Dobrovolny, in his office in room 106A, Nesmith Hall.

Occupational Therapy Curriculum

An ally to the medical and nursing profession, Occupational Therapy is a form of medically prescribed treatment using as its medium a wide variety of skills, crafts, and techniques.

Its early adaptation, long before World War I, grew from the knowledge that occupation is nature's best medicine. From its use in the

first World War as a morale agent, it has expanded to the point of recognition by the American Medical Association as an important treatment in all types of illnesses.

The course admits both men and women who can meet entrance requirements.

The successful practice of Occupational Therapy requires not only thorough academic training but suitable personality combined with judgment, dependability, tact, tolerance, patience, and a will to serve. A high degree of mental and physical health is essential. Occupational Therapy requires physical vitality and emotional stability.

In accordance with the standards of training approved by the American Occupational Therapy Association, all students must be at least twenty-one years of age at time of graduation from college. The maximum age is thirty-five, although exceptions are sometimes made in the cases of well qualified persons.

The course in Occupational Therapy is designed to satisfy the requirements of the American Medical Association as well as to offer a four-year course leading to the B.S. Degree. This includes the theoretical subjects needed in the medical field as well as a wide range of crafts used in therapy and recreational, educational, and pre-vocational subjects.

At the completion of the four-year course, the student will spend eight months in clinical practice in affiliated hospitals or services under the direction of a registered Occupational Therapist. When this internship is satisfactorily completed, the student is entitled to a Certificate of Occupational Therapy. The student is then qualified to take examination for registry in the American Occupational Therapy Association. The standard examination is sent out by the Association and administered by the University. A fee of ten dollars is required by the Association for each examination.

Eight months of practical experience in hospitals is divided as follows:

Mental hospital—not less than two months
Tuberculosis sanatorium—not less than one month
Children's hospital—not less than one month
General hospital—not less than one month
Orthopedic hospital—not less than one month
Optional for the remaining two months

The American Medical Association requires a physical examination including a tuberculin test prior to hospital training.

Expenses vary during the period of clinical practice. Room, board and laundry are given students by some hospitals; meals only in other hospitals; while others offer training only. In all cases, the University supervises living arrangements for student affiliates. Blue jumper uni-

forms with white blouses, white shoes and stockings are required for hospital training.

The present demand for qualified therapists is far in excess of the supply.

Students interested in this Curriculum are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 131 of the current catalogue. They are advised to consult with the Supervisor, Doris F. Wilkins, at the Craft Cottage.

Pre-Medical Curriculum

Young men and women interested in careers as physicians or surgeons are counselled to select the Pre-medical Curriculum. Students who successfully complete this Curriculum will be eligible for admission to class A medical schools. However, owing to the large number of applications for admission to medical schools, usually only those students who stand in the upper third of their class during their pre-medical work can expect to be admitted. Also, some medical schools restrict the number of students admitted from any one pre-medical institution. Preference is always given to those students who have the most complete training and who stand highest in their pre-medical work.

It is highly desirable that a student spend four years at the University in preparation for medical training, although some medical schools do not require a Bachelor's degree as a condition of admission. The four years of pre-medical work will, however, give the student a broad foundation for his future medical work.

The Curriculum is outlined in detail on page 132. Students registered in it are held for the requirements of all Prescribed Curriculums which are set forth on page 124.

Pre-Dental Training.—Pre-Dental training parallels very closely the Pre-Medical Curriculum and the student's program should include courses in Comparative Anatomy, Physics, and Organic Chemistry.

Students interested in either of these Curriculums should consult the Supervisor, Professor C. F. Jackson, in his office in room 101, Nesmith Hall.

Secretarial Curriculum

A large number of college women find pleasant and profitable employment in secretarial positions in private, professional, commercial and industrial offices. Although in most cases the initial appointment is to a subordinate position in an office organization, the breadth of the college education plus the secretarial skills acquired during the college course give opportunity for early assumption of greater responsibility.

Although the Curriculum is essentially vocational, it provides for a rather liberal number of elections with which to secure the general education so essential to success.

Women students interested in other aspects of business are advised to consider the Business Curriculum described on page 125, and those interested in less specialization are counselled to consider a major in Economics in the General Liberal Arts Curriculum as set forth on page 92.

Women preparing to teach commercial subjects in high school should include in their Freshman programs Sec. St. 7, 8; in their Sophomore programs Sec. St. 1, 2, 23, 24, Economics 3, 4, Accounting 1, 2, English (year's work), Psychology 11, and Education 42; in their Junior programs, Sec. St. 3, 4, 9, 10, 13, and 17, Economics 1, 2, and Education 51, 52, and 61; in the Summer School between their Junior and Senior years Education-Commercial subjects 93, *Recent Problems in the Teaching of Commercial Subjects in the High School;* and in their Senior programs, Sec. St. 11 and 18 and Education-Commercial subjects 94, *Supervised Teaching in Commercial Subjects.* Such students should enroll for an average of not less than 18 semester credits for seven semesters in order to earn the 140 credits required for the degree.

The Secretarial Curriculum is outlined in detail on page 133. Students registered in it are held for the requirements expected of students in all Prescribed Curriculums as set forth on that page. Secretarial majors must earn grades of C or better in the following courses: Sec. St. 3, 4, 9, 10, 17; Sec. St. 11, 13, 18 (unless excused in accordance with the statement below); Sec. St. 22, *Advanced Transcription,* Sec. St. 23-24, *Business Writing,* Economics, or Accounting (any Economics or Accounting course, whether listed in the Curriculum or not, will be accepted), 7-14 credits, (a total of 27 semester credits). In addition, a grade of B or better must be earned in 12 credits of the foregoing 27.

Students transferring from collegiate institutions and high school students with previous training in Secretarial subjects are required to take the following courses: Sec. St. 3, 4, 9, 10, 17; Sec. St. 11, 13, 18 (unless excused). These students may be excused from

Sec. St. 11 by passing a 40-period certificate test.

Sec. St. 13 by passing a theory and practice test on each of the machines taught.

Sec. St. 18 by giving satisfactory evidence of having done acceptable Secretarial work in a business office for one year. Work done for relatives will not be considered.

Transfers and high school students who have had one year of Gregg shorthand (or the equivalent of one year) in another institution and have earned a grade of 80 or better (where the passing grade is 70) will not be allowed to enroll in Sec. St. 1 for credit; likewise, those students who have had one year of typewriting (or the equivalent) in

another institution and have earned a grade of 80 or better (where the passing grade is 70) will not be allowed to enroll in Sec. St. 7 for credit.

Secretarial majors who have had Sec. St. 5 in the University of New Hampshire or a similar course in another collegiate institution, or one semester of typewriting in high school or preparatory school, will be required to enter Sec. St. 27 instead of Sec. St. 7.

Students interested are advised to consult with the Supervisor, Professor Doris Tyrrell, in her office in room 4, Morrill Hall.

Two-Year Secretarial Curriculum

The Two-Year Secretarial Curriculum offers high school graduates the opportunity to prepare for positions in which the demand is for mature workers who are equipped with certain technical skills; who have broadened their educational horizon through contact with the academic world; and who have had a degree of office experience.

An important feature of the Two-Year program is the plan by which qualified students are able to earn a large part of their expenses and at the same time gain practical experience by working in University offices.

After satisfactorily completing 70 credits of prescribed and elected courses (two years of full-time studying) an appropriate certificate will be granted.

Subsequently, a student may qualify for the Bachelor's degree by meeting the requirements of a chosen major or Prescribed Curriculum. If the Four-Year Secretarial Curriculum is selected, the degree can be earned after two years of additional study.

Students who have not had all of the subjects required for admission to the Four-Year Curriculums but who have excellent records may be considered for admission to the Two-Year Curriculum. Such students will not be allowed to transfer to any other curriculum unless admitted to it by the Committee on Admissions. Students will be admitted under one of the following plans:

Plan A. Students admitted under this plan will work half time in Campus offices, earning $35 a month, and study half time. Although three years will be requried to complete the work for the Certificate, the number of credits earned will represent two years of full-time study. Applicants should have taken two years of Shorthand and Typewriting (or one year of Shorthand and Typewriting and one year of Office Practice) in high school.

Continuance in this plan is contingent upon the student's doing satisfactory work both in class and in part-time employment.

Plan B. Students following this plan will work less than half time and may earn up to $20 a month. Although between two and three years will be required to complete the work for the Certificate, the num-

ber of credits earned will represent two years of full-time study. Applicants should have taken at least one year of Shorthand and Typewriting in high school.

Continuance in this plan is contingent upon the student's doing satisfactory work both in class and in part-time employment.

Plan C. This plan will be followed by students who are not working part time and who will complete the requirements for the Certificate in two years.

Candidates for a certificate in the Two-Year Secretarial Curriculum must complete 70 semester credits, 35 of which must be with a grade of C or better. Under Plans A and B the grade of C or better must be earned in the following courses:

Sec. St. 3-4, *Advanced Shorthand,* 6 cr.; Sec. St. 9-10, *Advanced Typewriting,* 4 cr.; Sec. St. 11, *Filing,* 2 cr. (unless excused from course in accordance with conditions described below). Sec. St. 13, *Office Machines,* 2 cr. (unless excused from course in accordance with conditions described below). Sec. St. 19-20, *Office Procedure,* 4 cr.; Accounting; Sec. St. 23-24, *Business Writing;* or Sec. St. 22, *Advanced Transcription,* 3-4 cr. A Social study, 3 cr. (if more than 4 credits are needed to complete 21). In addition, a grade of B or better must be earned in 9 credits of the foregoing 21.

Under Plan C, a grade of C or better must be earned in the following courses:

Sec. St. 3-4, *Advanced Shorthand,* 6 cr. Sec. St. 9-10, *Advanced Typewriting,* 4 cr.; Sec. St. 11, *Filing,* 2 cr. (unless excused from course in accordance with conditions described below). Sec. St. 13, *Office Machines,* 2 cr. (unless excused from course in accordance with conditions described below). Sec. St. 17-18, Office Procedure and Practice, 6 cr. (unless excused from 18 in accordance with conditions described below). Accounting; Sec. St. 23-24, *Business Writing;* or Sec. St. 22, *Advanced Transcription,* 3-5 cr. A Social study, 3 cr. (if more than 5 credits are needed to complete 21). In addition, a grade of B or better must be earned in 9 credits of the foregoing 21.

A grade of C in the courses listed is based on production tests and represents as nearly as possible the performance of the average stenographer or secretary in the skill in which the testing is done.

Students transferring from collegiate institutions and high school students with previous training in Secretarial subjects are required to take the following courses: Sec. St. 3, 4, 9, 10, 17; Sec. St. 11, 13, 18 (unless excused or in Plan A or B). Students may be excused from:

Sec. St. 11, *Filing,* by passing a 40-period certificate test. Sec. St. 13, *Office Machines,* by passing a theory and practice test on each of the machines taught. Sec. St. 18, *Office Practice,* by giving satisfactory evidence of having done acceptable Secretarial work in a business office for one year. Work done for relatives will not be considered.

Transfer students and high school students who have had one year of Gregg shorthand (or the equivalent of one year) in another institution and have earned a grade of 80 or better (where the passing grade is 70) will not be allowed to enroll in Sec. St. 1 for credit; likewise, those students who have had one year of typewriting (or the equivalent) in another institution and have earned a grade of 80 or better (where the passing grade is 70) will not be allowed to enroll in Sec. St. 7 for credit.

Secretarial majors who have had Sec. St. 5 in the University of New Hampshire or a similar course in another collegiate institution, or one semester of typewriting in high school or preparatory school, will be required to enter Sec. St. 27 instead of Sec. St. 7.

Students interested are advised to consult with the Supervisor, Professor Doris Tyrrell, in her office in room 4, Morrill Hall.

Social Service Curriculum

Social Service includes, among others, the following fields: family case work, child care, child placement, settlement and neighborhood house, institutional work for defectives and dependents, municipal and county relief work, probation, correctional school and prison service, Y.M.C.A. and Y.W.C.A. secretarial service, municipal playground direction, child guidance clinics, community chest work, rural community organization.

Students may prepare for Social Work as a career under one of three plans. In every way the most desirable is to take the full four years at the University as a broad preparation for a Two-Year professional course in a recognized School of Social Work. If the resources necessary for such extended professional training are lacking, it is possible to acquire the fundamental principles and techniques of Social Service by selecting the Social Service Curriculum. To meet the needs of students desiring supervised urban training, three years may be taken at the University, and the fourth at an approved School of Social Work. The requirement of the Senior year in residence will be waived and the degree awarded by the University on the successful completion of the fourth year in such a school.

The student should not confuse the Social Service Curriculum with the major in Sociology in the General Liberal Arts Curriculum. The Social Service Curriculum is essentially vocational.

The program is outlined in detail on page 135. Students registered in it are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124.

It should be noted that while the field work requirement of Sociology 97, 98 may be completed during the college year in connection with a neighboring social agency (see course description), it is strongly recommended that, where possible, students arrange to satisfy the requirement by spending the summer preceding the Senior year in prac-

tical work under the supervision of a Settlement, Correctional Institution, or Case Work Agency in Boston, Pittsburgh, Cleveland, Chicago, or other urban center.

Students interested are advised to consult the supervisor, Professor C. W. Coulter, in his office in room 201, Morrill Hall.

Requirements for Degrees — All Prescribed Curriculums

1. Inasmuch as all Prescribed Curriculums prepare for specific vocations, students selecting them are held for the successful completion of all the courses prescribed, and generally in the sequence in which they are arranged on pages 125-135.

2. A student registered in a Prescribed Curriculum must satisfy the general University and the special Freshman requirements described under A and B of the General Liberal Arts Curriculum on pages 108-109. He must also complete successfully before graduation six semester credits of English, in addition to meeting the requirements of English 1. Not all English courses may be used to meet this requirement. See page 95. Students registering in a Prescribed Curriculum are exempt from any foreign language requirement.

3. A student registered in a Prescribed Curriculum must complete 140 semester credits of which 70 must be with a grade of C or better. He must also pass at least 27 semester credits of the prescribed courses* with grades of C†‡ or better, and 12 of these with a grade of B or better, and meet the quality requirements established for the Curriculum in which he is registered.

4. A student registered in a Prescribed Curriculum must observe also the regulations governing all students of the College of Liberal Arts as set forth under F on page 110.

*Except in the Secretarial Curriculum. See page 133.

†Any student who has acquired major credit prior to October 1, 1944, may satisfy his major requirements with 75 or better or C or better.

‡For any student whose major-grade requirements are 24 semester credits in the major and who had no major grades recorded as of October 1, 1944, the major-grade requirements shall be 24 semester credits with grades of C or better, of which 9 semester credits shall be grades of B or better.

COLLEGE OF LIBERAL ARTS

BUSINESS CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109		
Electives to make	17	17

Sophomore Year

Mil. Sci. 3, 4	1½	1½
Phys. Ed. 33, 34	½	½
†Acct. 1, 2, *Elementary Accounting*	4	4
Econ. 3, *Economic and Commercial Development of the U. S.*	3	
Econ. 4, *Economic and Commercial Geography*		3
*Eng. (*A year of English*)	3	3
Electives to meet semester requirements		
	18	18

Junior Year

Acct. 3, 4, *Intermediate Accounting*	4	4
Econ. 1, 2, *Principles of Economics*	3	3
Econ. 21, 22, *Commercial Law*	3	3
Econ. 24, *Marketing*		3
Eng. (35), *Public Speaking*		3
Electives		
	18	18

Senior Year

Econ. 53, *Money and Banking*	3	
Electives to meet semester requirements		
	17	17

†Acct. 1, 2 may be elected in the Freshman year.

*A year of English must be taken before graduation.

Detailed description of this curriculum appears on page 114.

HOSPITAL DIETETICS CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109. (*Include Biol. 1–2*)		
*Electives to make	17	17

Sophomore Year

Phys. Ed. 3, 4	1	1
Chem. 1, 2, *General Chemistry*	4	4
Eng. (*A year of English*)	3	3
H. Ec. 15, 16, *Foods*	3	3
Zool. 17, 18, *Human Anatomy and Physiology*	3	3
Electives to meet semester requirements		
	18	18

Junior Year

Phys. Ed. 5, 6	1	1
Agr. Chem. 5, *Organic and Biological Chemistry*	5	
Agr. Chem. 6, *Chemistry of Food and Nutrition*		3
Econ. 1, 2, *Principles of Economics,* or Soc. 1, 2, *Principles of Sociology; Social Psychology*	3	3
H. Ec. 25, 26, *Child Development*	3	3
H. Ec. 74, *Dietetics*		3
Psych. 11, *Principles of Human Behavior*	3	
Elective:		
H. Ec. 48, *Field Work in Institutional Practice or Extension*	3	4–6
	18	18

Senior Year

Bact. 1, *General Bacteriology*	5	
Bact. 2, *Food and Sanitary Bacteriology*		4
H. Ec. 41, *Institutional Management*	3	
H. Ec. 43, 44, *Institutional Practice*	2	2
H. Ec. 46, *Furniture and Textiles*		3
H. Ec. 49, 50, *Quantity Cookery*	2	2
H. Ec. 75, *Diet Therapy*	3	
Elective:		
Acct. 1, *Elementary Accounting*	3	6
	18	17

*Freshmen expecting to follow this Curriculum are advised to elect Home Ec. 15–16, *Foods.*

Detailed description of this curriculum appears on pages 114-115.

COLLEGE OF LIBERAL ARTS

HOTEL ADMINISTRATION CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109. (*Include Chem. 1–2*)		
Acct. 1, 2, *Elementary Accounting*	4	4
†H.A. 1, *Orientation*	1	
H.A. 40, *Lectures on Hotel Management*		1
M.E. (1), *Mechanical Drawing*		2
	17	17

Sophomore Year

Mil. Sci. 3, 4	1½	1½
Phys. Ed. 33, 34	½	½
Acct. 9, 10, *Hotel Accounting*	3	3
Econ. 1, 2, *Principles of Economics*	3	3
*Eng. (*A year of English*)	3	3
H.A. 21, 22, *Introductory Hotel Engineering*	4	4
H.A. 42, *Lectures on Hotel Management*		1
H.Ec. 15, 16, *Foods*	3	3
Electives: Ent. 55, *Household Insects;* H.A. 23, *Stewarding;* Hort. 28, *Elementary Landscape Gardening;* Hort. 61, *Harvesting and Marketing*		
	18	19

Junior Year

E.E. 31, *Circuits and Appliances*	4	
H.Ec. 45, *Furniture, Equipment and Textiles*	3	
H.Ec. 49, 50, *Quantity Cookery*	2	2
H.A. 5, *Hotel Operation*	3	
H.A. 44, *Lectures on Hotel Management*		1
M.E. 40, *Heating and Ventilating*		2
Psych. 31, *General Psychology,* or	3	
Psych. 33, *Industrial Psychology*	3	
Psych. 62, *Psychology of Personnel*		3
Electives: See Sophomore electives, and A.H. 8, *Meat and Its Products; Livestock Markets;* Econ. 53, 54, *Money and Banking;* Econ. 61, *Public Regulation of Business;* French 1, 2, *Elementary French;* H.A. 6, *Hotel Public Relations*		
	18	18

†Not to be included in the courses used to meet the requirement of 27 semester credits in Prescribed Courses with major grades.

*A year of English must be taken before graduation.

SENIOR YEAR

	First Semester Credits	*Second Semester Credits*
Econ. 21, 22, *Commercial Law*	3	3
H.A. 46, *Lectures on Hotel Management*		1
Electives:	14	13
Acct. 5, 6, *Advanced Accounting; Federal Tax Accounting;* H.A. 12, *Financial Statements;* H.Ec. 41, *Institutional Management;* Sec. St. 1, 2, *Shorthand;* Sec. St. 7, 8, *Typewriting;* Soc. 88, *Recreation and Leisure*		
	17	17

In addition to the requirements listed above, each student is required to secure before graduation a minimum of twenty points of Hotel Practice credit.

DETAILED DESCRIPTION OF THIS CURRICULUM APPEARS ON PAGE 115.

COLLEGE OF LIBERAL ARTS

INSTITUTIONAL ADMINISTRATION CURRICULUM

Freshman Year**

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109. (*Include Biol. 1–2.*)		
	17	17

Sophomore Year

Phys. Ed. 3, 4	1	1
Chem. 1, 2, *General Chemistry*	4	4
*Eng. (*A year of English*)	3	3
H. Ec. 3, 4, *Clothing Selection*	3	3
H. Ec. 15, 16, *Foods*	3	3
Electives: Educ. 42, *Educational Psychology of Adolescence;* Psych. 11, *Principles of Human Behavior*	3	3
	17	17

Junior Year

Phys. Ed. 5, 6	1	1
Agr. Chem. 5, *Organic and Biological Chemistry*	5	
Agr. Chem. 6, *Chemistry of Food and Nutrition*		3
Econ. 1, 2, *Principles of Economics,* or Soc. 1, 2, *Principles of Sociology; Social Psychology*	3	3
H. Ec. 74, *Dietetics*		3
Electives: H. Ec. 45, *Furniture, Equipment, and Textiles;* †H. Ec. 48, *Field Work in Institutional Practice*	9	8
	18	18

Senior Year

H. Ec. 41, *Institutional Management*	3	
H. Ec. 43, 44, *Institutional Practice*	2	2
H. Ec. 49, 50, *Quantity Cookery*	2	2
H. Ec. 75, *Diet Therapy*	3	
Electives: Acct. 1, *Elementary Accounting;* Bact. 1, 2, *Gen. Bact.; Food and Sanitary Bacteriology*	8	14
	18	18

*A year of English must be taken before graduation.

†Field work may be done during the summer.

**Freshmen expecting to follow this Curriculum are advised to elect Home Ec. 15–16, *Foods*.

Detailed description of this curriculum appears on page 116.

UNIVERSITY OF NEW HAMPSHIRE

NURSING CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109. (*Include Biol. 1–2.*)		
Chem. 3, 4, *General Chemistry*	4	4
	17	17

Sophomore Year

Phys. Ed. 3, 4	1	1
Eng. (*A year of English*)	3	3
Zool. 17, 18, *Human Anatomy and Physiology*	3	3
Elect courses from the following: Bact. 1, *General;* Bact. 4, *Public Health and Sanitation;* H.Ec. 15–16, *Foods;* Psych. 31, *General Psychology;* Soc. 1, *Principles of Sociology;* Soc. 2, *Social Psychology*	11	11
	18	18

Junior Year

Phys. Ed. 5, 6	1	1
Agr. Chem. 5, *Organic and Biological Chemistry*	5	
Zool. 53, *Histology*	4	
Elect courses from the following: Agr. Chem. 6, *Chemistry of Food and Nutrition;* Bact. 8, *Pathogenic Bacteriology;* Econ. 1–2, *Principles of Economics;* Educ. 42, *Educational Psychology of Adolescence;* H.Ec. 25–26, *Child Development;* Psych. 47, *Mental Hygiene;* Psych. 51, *Psychology of Childhood;* Soc. 72, *The Family;* Soc. 73, *Principles of Social Case Work;* Zool. 54, *Embryology;* Zool. 59–60, *Advanced Physiology*	8	17
	18	18

Training Period

Credit earned in training at an approved hospital will apply towards a Bachelor's degree.

Detailed description of this curriculum appears on page 117.

COLLEGE OF LIBERAL ARTS

OCCUPATIONAL THERAPY CURRICULUM

Freshman Year

	First Semester Credits		*Second Semester Credits*
See Freshman requirements, page 109. (*Include Biol. 1–2.*)			
Arts 11, (11) *Modeling*	2	or	2
O.T. 23–24, *Elementary Drawing and Design*	2		2
Soc. 1, *Principles of Sociology*	3		
Soc. 2, *Social Psychology*			3
Elective			
	16		17

Sophomore Year

Phys. Ed.	1	1
Eng. (A second year's work in English)	3	3
Geog. 1–2, *Geog. of the West. and East. Hem.*	2	2
O.T. 1, *Handicrafts*	2	
O.T. 8, *Principles of Woodworking*		2
O.T. 9, *Lettering and Printing*	2	
Psych. 11, *Principles of Human Behavior*	3	
Psych. 47, *Mental Hygiene*		3
Zool. 17, 18, *Human Anatomy and Physiology*	3	3
Elective	3	3
	19	17

Junior Year

Phys. Ed.	1	1
Arts 13–14, *Carving*	1	1
Arts 35, *Stagecraft*	1	
Arts 39, *Elementary Photography*	3	
*H.Ec. 25–26, *Child Development*	3	3
Hort. 40, *Outdoor Floriculture*		3
O.T. 4, *Handicrafts*		3
O.T. 15–16, *Ceramics*	2	2
Psych. 54, *Psychopathology*		3
Electives	6	2
	17	18

Senior Year

Arts 19–20, *Puppetry*	2	2
O.T. 5, 6, *Handicrafts*	3	3
O.T. 45, *Elementary Library Methods*	1	
O.T. 47–48, *Theory of Occupational Therapy* (Total of 5 cr.)	2 or 3	3 or 2
O.T. 49–50, *Clinical Subject*	2	2
Soc. 71, *Crime and Its Social Treatment*	3	
Electives	3	8
	16–17	17–18

*A male student may substitute an approved elective.

Detailed description of this curriculum appears on page 117.

UNIVERSITY OF NEW HAMPSHIRE

PRE-MEDICAL CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109. (*Include Biol. 1–2.*)		
Chem. 3, 4, *General Chemistry*	4	4
	17	17

Sophomore Year

Mil. Sci 3, 4	1½	1½
Phys. Ed. 33, 34	½	½
Chem. 25, 26, *Introductory Quantitative and Qualitative Analysis*	3	3
Eng. (*A year of English*)	3	3
Zool. 7–8, *General Zoology and Comparative Anatomy*	4	4
Elective: Lang., *French or German*	6	6
	18	18

Junior Year

Chem. 53, 54, *Organic Chemistry*	5	5
Phys. 5, 6, *Pre-Medical Physics*	5	5
Electives: *Advanced Chem.; Advanced Eng.; Advanced Zool.; Bact.; Econ.; Foreign Lang.; Govt.; Hist.; Math.; Psych.; Soc.*	8	8
	18	18

Senior Year

Advanced Zoology	4	4
Electives: *Advanced Bact.; Advanced Eng.; Advanced Zool.; Econ.; Foreign Lang.; Govt.; Hist.; Math.; Physiological Chem.; Psych.; Soc.*	13	13
	17	17

Detailed description of this curriculum appears on page 119.

COLLEGE OF LIBERAL ARTS

SECRETARIAL CURRICULUM*

Freshman Year

	First Semester Credits	Second Semester Credits
See Freshman requirements, page 109		
Electives to meet semester requirements		
	17	17

Sophomore Year

Phys. Ed. 3, 4	1	1
Econ. 3, *Economic and Commercial Development of the U. S.*	3	
Econ. 4, *Economic and Commercial Geography*		3
Eng. (*A year of English*)	3	3
Sec. St. 1, 2, *Shorthand*	3	3
Sec. St. 7, 8, *Typewriting*	2	2
Sec. St. 23, 24, *Business Writing*	3	3
Suggested electives to meet semester requirements:		
Education, Language, Statistics, Social Studies	3	3
	18	18

Junior Year

Phys. Ed. 5, 6	1	1
Acct. 1, 2, *Elementary Accounting*	4	4
Econ. 1, 2, *Principles of Economics*	3	3
†Sec. St. 3, 4, *Advanced Shorthand*	3	3
†Sec. St. 9, 10, *Advanced Typewriting*	2	2
Electives to meet semester requirements	5	5
	18	18

Senior Year

Sec. St. 11, *Filing*	2	
Sec. St. 13, *Office Machines*		2
Sec. St. 17, 18, *Secretarial Office Procedure and Practice*	3	3
Sec. St. 22, *Advanced Transcription (Not required)*		3
Electives to meet semester requirements	12	9
	17	17

*Students preparing to teach Secretarial Subjects must elect in addition a sufficient number of courses in Economics, Accounting, and Education to meet state requirements.

†A grade of C or better in Sec. St. 8 will be required of students electing Sec. St. 9 and 10; and a grade of C or better in Sec. St. 2 will be required of students electing Sec. St. 3 and 4.

Detailed description of this curriculum appears on page 119.

UNIVERSITY OF NEW HAMPSHIRE

TWO-YEAR SECRETARIAL CURRICULUM*

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 1, 2 and 1.5, 2.5	2	2
Acct. 1, 2, *Elementary Accounting*	4	4
Sec. St. 1, 2, *Beginning Shorthand*	3	3
Sec. St. 7, 8, *Beginning Typewriting*	2	2
Social Study	3	3
Electives	3	3
	17	17

	Third Semester Credits	*Fourth Semester Credits*
Phys. Ed.	1	1
†Sec. St. 3, 4, *Advanced Shorthand*	3	3
†Sec. St. 9, 10, *Advanced Typewriting*	2	2
Sec. St. 11, *Filing*	2	
Sec. St. 13, *Office Machines*		2
Sec. St. 17, 18, *Office Procedure and Practice*	3	3
Sec. St. 23, 24, *Business Writing*	3	3
Electives	4	4
	18	18

*It is assumed that the entering student has had no commercial work in high school. Modifications in the program will be made to fit individual cases.

†A grade of C or better in Sec. St. 8 will be required of students electing Sec. St. 9 and 10; and a grade of C or better in Sec. St. 2 will be required of students electing Sec. St. 3 and 4.

COLLEGE OF LIBERAL ARTS

SOCIAL SERVICE CURRICULUM

Freshman Year

	First Semester Credits		Second Semester Credits
See Freshman requirements, page 109. (*Include Biol. 1–2.*)			
Soc. 1, *Principles of Sociology*	3		
Soc. 2, *Social Psychology*			3
	17		17

Sophomore Year

Mil. Sci. 3, 4	1½		1½
Phys. Ed. 33, 34, *For Men*	½		½
Phys. Ed. 3, 4, *For Women*	1		1
Bact. 4 (*Suggested*) *Public Health and Sanitation*	3		
Eng. (*A year of English*)	3		3
Psych. 31, (31) *General Psychology*	3	or	3
Soc. 61, *Social Pathology*	3		
Soc. 62, *Community Organization*			3
Electives: Bact. 2, *Food and Sanitary Bact.;* H.Ec. 25, 26, *Child Development;* Hist. 7, 8, *The United States from 1790 to 1900;* Sec. St. 7, 8, *Typewriting*	3		6
	18		18

Junior Year

Phys. Ed. 5, 6, *For Women*	1		1
Psych. 54, *Psychopathology,* or 47, *Mental Hygiene*			3
Soc. 71, *Crime and Its Social Treatment*	3		
Soc. 72, *The Family*			3
Soc. 73, *Principles of Social Case Work*	3		
Soc. 75, *Methods of Social Research*	3		
Suggested Electives: Econ. 1, 2, *Principles of Economics;* Govt. 3, 4, *American Government*	8		11
	18		18

Senior Year

Soc. 84, *Methods of Social Progress*			3
Soc. 88, *Recreation and Leisure*			3
Soc. 95, 96, *Sociological Research*	3		3
Soc. 97, 98, *Social Service and Field Work*	3		3
Suggested Electives: Eng. 35 (35) *Public Speaking;* Eng. 41 (41) *Expository Writing*	11		5
	17		17

Detailed description of this curriculum appears on page 123.

UNIVERSITY OF NEW HAMPSHIRE

PREPARATION FOR TEACHING

University Teacher Preparation Curriculums

The University of New Hampshire has accepted the responsibility of preparing teachers for the secondary schools of New Hampshire and neighboring states. Two types of teacher preparation programs are offered. General Liberal Arts Curriculum students may follow the advisory program of studies entitled the University Teacher Preparation Program. Then there are Prescribed Curriculums preparing teachers in the fields of Agriculture, Art, Home Economics, Music, and Physical Education. On pages 139 through 149 appear descriptions of these programs of study. Students interested in preparing for teaching are urged to become thoroughly familiar with the requirements of all the Teacher Preparation Programs before they make a choice of a particular program. This section of the catalogue includes descriptions of Teacher Preparation Programs offered by the University, not merely those offered by Departments in the College of Liberal Arts.

The University Teacher Preparation Program*

The University Teacher Preparation Program presented on page 143 of this catalogue includes the basic courses which it is believed are needed in the preparation of secondary-school teachers. These courses are designed to give thorough preparation in subject-matter fields in which the individual desires to teach. The courses in Education aim to develop an appreciative understanding of adolescents and their educational needs, of our democratic society and its needs which our secondary schools should endeavor to meet, of the objectives and techniques of secondary-school teaching, and of the problems of teaching peculiar to the subject-matter fields in which the student intends to teach. The program also includes a semester of supervised teaching designed to give prospective teachers opportunity to teach under as nearly normal conditions as can be arranged.

It is important to note that the University Teacher Preparation Program may be completed not only by students majoring in the Department of Education, but also by students majoring in any of the Departments of the University offering work the subject matter of which is offered in secondary schools. General Liberal Arts Curriculum students registered in and completing this program are released from the Sophomore Group Requirements of the General Liberal Arts Curriculum (see p. 113). All other requirements of the General Liberal Arts Curriculum, including the Language requirement, must be met. Students satisfactorily completing this program are entitled to the degree

*This is *not* a Prescribed Curriculum.

awarded to students majoring in their respective subjects and also to a certificate indicating that the University Teacher Preparation Program has been completed.

This program is sufficiently flexible to provide the differentiation necessary to meet the needs of students who may be planning to teach: (1) English and the Foreign Languages, (2) English and the Social Studies, (3) Mathematics and the Biological or Physical Sciences, or (4) the Commercial Subjects. Students who are planning to teach the Commercial Subjects take their teaching major and minors in the field of Economics and Commerce. Such students should include in their programs the following courses: Secretarial Studies 7–8, in the Freshman year; Secretarial Studies 1–2, Economics 3, 4, and Accounting 1–2, in the Sophomore year; Secretarial Studies 3–4, 9–10, 13, and 17, and Economics 1–2, in the Junior year; Secretarial Studies 11 and 18, Commercial Subjects—Education 93 and Education–Commercial Subjects 94, in the Senior year.

Students who plan to complete the University Teacher Preparation Program in the teaching of History or Social Studies should elect European History (History 19, 20) in their Sophomore year.

Since the State of New Hampshire requires each candidate for certification to be prepared to teach three subjects which are referred to as "teaching major" and first and second "teaching minors,"* the University Teacher Preparation Program includes the requirement of the satisfactory completion of 24 semester credits in a teaching major and of 12 semester credits in each of two teaching minors. This work may include any courses in the respective subject-matter fields taken in college.

Courses in Problems in the Teaching of High School Subjects

The courses in problems in the teaching of high school subjects are listed on page 138 and are open only to students who have completed the course in Principles and Problems of Teaching in the Secondary Schools (Education 61) in addition to the courses in the subject and related subjects designated as prerequisites. From these courses in Problems in the Teaching of High School Subjects the student planning to complete the University Teacher Preparation Curriculum selects his courses in the fields of his teaching major and teaching minor. To be eligible for Supervised Teaching in a subject the student must complete the course in the problems of teaching that subject with a grade of at least C.

*The requirements of the State of New Hampshire are a teaching major of 18 semester credits, a first teaching minor of 12 semester credits, and a second teaching minor of 6 semester credits. For detailed information concerning teaching majors and minors, consult the Department of Education.

Courses in Supervised Teaching. The work in Supervised Teaching is under the direction of the Professor and Associate Professor of Education serving as Director and Assistant Director of student teaching. Students teach under the general direction of the members of the University Faculty conducting the courses in problems of teaching the various school subjects. Students teach under the immediate direction of selected classroom teachers in high schools approved by the University.

In the Supervised Teaching Courses the student participates in the conduct of class exercises and in the control of the classroom, at first chiefly as an observer, but gradually entering into teacher responsibilities until complete charge of the classroom is assumed.

This work is required in the University Teacher Preparation Program, but will be open only to students whose applications are approved by the Head of the Department of Education and the Supervisor of Student Teaching in the subject or subjects in which the applicant desires to do supervised teaching. Applications should be filed in the Office of the Department of Education on or before November 15 of the academic year in which the supervised teaching is to be done. *No applications will be considered unless the applicant has completed with a grade of at least C the following courses in Education: 42, 51, 52, 61 and, with an average grade of C or better, at least 18 semester credits in the subject-matter field in which he desires to teach under supervision.*

The applicant must also complete with a grade of at least C a course in the problems of teaching the subject in which he desires to do supervised teaching.

Prescribed Curricuiums in Teacher Preparation

A student electing the Teacher Preparation Curriculum in Agriculture must meet the general and specific requirements for a degree described on pages 75 and 76 and applicable to all students registered in the College of Agriculture. His course of study will follow a broad general program rather than a specialization in any particular field. Furthermore, he must meet the state requirements for certification which include one semester of practice teaching, eight additional credits of courses in Education, and eight credits of Agricultural Engineering.

There is a rapidly increasing demand for teachers of Agriculture in our secondary schools. Local school boards are beginning to appreciate more fully the value of instruction in agriculture, both for the boys who will engage in agriculture after leaving high school, and as electives to maintain the interest of those young men who may wish to take at the University further education in this basic industry.

As a result, there are a good many positions open for the young men who wish to make the teaching of Agriculture a profession.

The first two years of the Teacher Preparation Curriculum in Agriculture are identical with the first two years of other Curriculums in Agriculture. For the Prescribed Program for the Freshman and Sophomore years, see page 76 of this catalogue. For the specialized program of the Junior and Senior years, see page 82.

Art Education Curriculum. This Curriculum is designed to prepare teachers and supervisors of Art in the public schools. It offers a carefully balanced specialization in teaching methods, materials, and techniques, and conforms to the regulations set down by the New Hampshire State Board of Education for teachers and supervisors of Art, Drawing, and Design (other than Mechanical Drawing).

Freshmen who plan to enter this Curriculum should elect *Elementary Drawing and Design* (Arts 23, 24) in their first year program.

Students who wish to prepare themselves to teach other subjects in addition to Art can do so by using their elective hours for this purpose. Such a program should be worked out in consultation with Professor A. M. Stowe, of the Department of Education.

Students registered in the Curriculum are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124 of the current catalogue.

Interested students should consult the Supervisor of this Curriculum, Professor George R. Thomas, room 304, DeMeritt Hall.

Home Economics Teacher Preparation Curriculum. The Home Economics Teacher Preparation Curriculum for secondary school teaching and extension work, presented on page 145, aims to give adequate preparation to prospective teachers in the subject matter of the several phases of the field of Home Economics; to acquaint them with educational procedures and modern methods of teaching, as well as to give a general education. The program is professional in character.

The Teacher Preparation Curriculum provides for courses in general as well as special methods. Students spend the first part of the second semester of the Senior year in Supervised Teaching in approved high schools. The last three to four weeks of the semester are spent on the Campus in an intensive seminar where deficiencies revealed during the practice teaching period may be translated into assets. Graduate study is necessary for students who plan to be teachers of Home Economics in colleges and universities.

Women students interested in entering extension work, either as home demonstration agents or as boys' and girls' club agents in the 4-H Club program, are advised to follow the Teacher Preparation

Program. An opportunity is offered to such students to obtain some practical experience in extension work through Home Economics 48, *Field Work in Institutional Practice and Extension,* during the summer between the Junior and Senior years. A limited number of opportunities to do practice extension work during the latter part of the Senior year is available to women students who have shown special aptitude in previous field experience in extension work.

The Curriculum is outlined in detail on page 145. Students registered in it are held for the requirements expected of students in all Prescribed Curriculums, which are set forth on page 124.

Students who are interested should consult the Supervisor, Professor Helen F. McLaughlin, room 208, Pettee Hall.

Music Education Curriculum. This Curriculum is designed to prepare teachers and supervisors of music in the public schools. It is based on the new demands for teachers possessing sound musicianship and a broad general culture in addition to a specialized training in music education. The satisfactory completion of this Curriculum will satisfy the requirements for teachers and supervisors of music in the public schools in New Hampshire and in most other states.

To be admitted to this Curriculum the student must give evidence of having a sound musical background. *Freshmen who plan to enter this Curriculum should take Music 11, 12 and one course in Applied Music in their first year program.*

Teachers and supervisors of music education must maintain a satisfactory standing with other professional musicians of the community and should be able to play or sing acceptably. For this reason 16 semester hours in Applied Music are required before graduation: 12 semester hours in one subject and 2 semester hours in two other subjects. In addition all candidates must pass an examination in piano.

Students who wish to prepare themselves to teach other subjects in addition to music can do so by using their elective hours for this purpose. Such a program should be worked out in consultation with Professor A. M. Stowe, of the Department of Education.

The Music Education Curriculum is outlined in detail on page 146. Students registered in the Curriculum are held for the requirements expected of students in all Prescribed Curriculums which are set forth on page 124.

Interested students should consult the Supervisor of this Curriculum, Professor B. W. Bergethon, room 101, Ballard Hall.

The University Physical Education Teacher Preparation Curriculum for Men. For men students who plan to prepare themselves for positions as teachers of Physical Education or Directors of Physical Education, the University has organized the University Physical Education Teacher Preparation Curriculum for Men (see page 147).

This Curriculum is a modification of the University Teacher Preparation Program, which will enable men to prepare themselves to teach in two subject-matter fields as well as in Physical Education. It is open to men who have satisfactorily completed the Freshman year, and are approved by the Department of Physical Education for admission to Physical Education as a field of concentration. The satisfactory completion of this Curriculum will entitle the student, in addition to his diploma, to a certificate indicating the fact. All students enrolled in this Curriculum must in their Freshman and Sophomore years pass skill tests in at least four of the individual and two of the team activities offered in the required two-year program.

Where it is possible, student teachers, who are Physical Education students, will be given an opportunity to do Supervised Teaching in Physical Education in the field and will be enrolled for Education-Physical Education 94.

Candidates for the certificate are required to complete satisfactorily a second teaching major of 24 semester credits and a teaching minor of 12 semester credits in subjects taught in high schools.

The University Physical Education Teacher Preparation Curriculum for Women. For women students who plan to prepare themselves for positions as teachers of Physical Education, the University has organized the University Physical Education Teacher Preparation Curriculum for Women (see page 148). This Curriculum is a modification of the University Teacher Training Program which will enable women to prepare themselves to teach in two subject-matter fields as well as in Physical Education. It is open to women who have satisfactorily completed the Freshman year and are approved by the Department of Physical Education for admission to that field of concentration. Where it is possible, student teachers who are Physical Education students will be given an opportunity to do supervised teaching in Physical Education in the field. They may be enrolled in Education 94, Supervised Teaching in the teaching major or majors, during the second semester of the Senior year. An alternative program for the second semester has been arranged whereby students who remain on the Campus may elect Physical Education 92, *Directed Teaching.* This course provides an opportunity to teach Physical Education under supervision in near-by elementary and secondary schools.

Physical Education students are required to complete satisfactorily a second teaching major of 24 semester credits and a teaching minor of 12 semester credits in subjects taught in high schools.

Electives offered by the Department of Physical Education for Women are: Physical Education 24, *Organized Camping,* Physical Education 36, *Recreation Leadership,* and a group of individual and dual sports which do not appear in the required Curriculum.

In addition, the following courses offered by other departments are suggested as valuable electives for Physical Education students: English 35, *Public Speaking;* English 40, *Stage Direction;* Psychology 51, 47, *Psychology of Childhood and Mental Hygiene;* Music 11, 12, *Elements of Music;* Sociology 1, 2, *Principles and Social Psychology;* Sociology 57, 60, *Rural and Urban Sociology;* Sociology 62, *Community Organization.* Physical Education students are advised to choose non-professional electives in the Junior year.

Under Physical Education 3, 4, 13, 14, 5, 6, Physical Education students are required to include the following division of activities: one quarter each of the following: individual gymnastics, tennis, archery, community games, soccer or speedball, hockey, basketball, folk dancing, square dancing, and contemporary dancing.

Other activities in the Physical Education program may be taken under Electives (see pages 147, 148).

Students following any Teacher Training Curriculum in the University are urged to elect for Physical Education the above activities.

For information concerning this Curriculum, see Professor Marion Beckwith, 101A, New Hampshire Hall.

Guidance of Students Preparing to Teach. Students who come to the University of New Hampshire for the purpose of preparing themselves for the teaching profession should consult with the Head of the Department of Education early in their Freshman year. Other students who are seriously considering teaching as a possible vocation are urged to consult with the Head of the Department of Education before making a decision.

While the University has organized curriculums designed to prepare students for the profession of teaching, it also recognizes that it is important that students be prepared to meet the state teacher certification requirements of the states in which they may desire to teach. The Department of Education endeavors to keep its files of teacher certification requirements up to date. Students preparing to teach in states other than New Hampshire should, before the close of their Sophomore year, consult the Department of Education concerning the requirements of the states in which they desire to teach and the most effective ways of meeting those requirements.*

*The New Hampshire State Board of Education grants a license to teach in New Hampshire secondary schools to candidates whose courses have included twelve semester hours of college work in Education. All candidates must pass the examination set by the State Board in Program of Studies and School Law. They may offer in lieu of examinations certified college courses in Educational Psychology, Methods of Teaching (general or special) and Secondary Education or School Management.

The following courses may be considered as work in Education: Educational Sociology, Educational Psychology, Practice Teaching, Methods of Teaching, History of Education, School Law, School Management, General Methods course, Special Methods course, and work in Tests and Measurements.

UNIVERSITY TEACHER PREPARATION PROGRAM*

Freshman Year	First Semester Credits		Second Semester Credits
See Freshman requirements, page 109			
†Teaching major (*First year*)			
	18		18
Sophomore Year‡			
Mil. Sci. 3, 4	1½		1½
Phys. Ed. 3, 4, *For Women*	1		1
Phys. Ed. 33, 34, *For Men*	½		½
Eng. (*A year of English*)	3		3
Psych. 11, *Principles of Human Behavior,* and Educ. 42, *Educational Psychology of Adolescence*	3		3
Teaching major, *Second year*	3		3
First teaching minor, *First year*	3		3
Electives to meet semester requirements	3		3
	18		18
Junior Year			
Phys. Ed. 5, 6, *For Women*	1		1
Educ. 51, *Social Backgrounds of American Secondary Education,* and Educ. 52, *Principles of American Secondary Education*	3		3
Educ. 61, (61) *Principles and Problems of Teaching in the Secondary School*	4	or	4
Teaching major, *Third year*	3		3
First teaching minor, *Second year*	3		3
Second teaching minor, *First year*	3		3
Electives to meet semester requirements	2		2
	19		19
Senior Year			
‖Teaching major, *Fourth year*	3		
§First teaching minor, *Third year*	3		
§Second teaching minor, *Second year*	3		
Problems in teaching, *Major*	3		
Problems in teaching, *Minor*	3		
Supervised teaching			6–14
Electives to meet semester requirements	3		
	18		6–14**

*This is not a Prescribed Curriculum. This program may be completed by students majoring in any of the departments of the University offering work the subject matter of which is offered in the secondary school. Students must, consequently, fulfill major requirements. A satisfactory completion of this program will entitle the student to a certificate indicating the fact.

†See sections covering Department of Education (page 93) for description of teaching major and teaching minor subjects.

‡General Liberal Arts students satisfactorily completing this program are released from the Sophomore Group requirements of the General Curriculum and are entitled to either the B.A. or B.S. Degree, whichever is conferred for the subject in which the student is majoring.

‖Remainder of the total of 24 semester credits required for the satisfactory completion of the program.

§Remainder of the total of 12 semester credits required in each teaching minor.

**The student should take enough credits in Student Teaching to reach the 140 needed for graduation. He may not, however, take less than six credits.

Detailed description of this curriculum appears on page 136.

UNIVERSITY OF NEW HAMPSHIRE

ART EDUCATION CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109		
Arts 23, 24, *Elementary Drawing and Design*	3	3
Electives		
	18	18

Sophomore Year

Mil. Sci. 3, 4	1½	1½
Phys. Ed. 3, 4, *Women*	1	1
Phys. Ed. 33, 34, *Men*	½	½
Arts 15, 16, *Ceramics*	2	2
Arts 25, 26, *Advanced Drawing and Design*	2	2
Arts 31, 32, *Introduction to the Arts*	3	3
Educ. 42, *Educational Psychology of Adolescence*		3
Eng., *A year of English*	3	3
Psych. 11, *Principles of Human Behavior*	3	
Elective		
	18	18

Junior Year

Phys. Ed. 5, 6, *Women*	1	1
Arts 27, 28, *Water Color Painting*	3	3
Arts 35 (35) *Stagecraft*	½–1	½–1
Educ. 51, 52, *Social Backgrounds of American Secondary Education* and Educ. 52, *Principles of American Secondary Education*	3	3
Electives		
	19	19

Senior Year

Arts 3, *Handicrafts*	3	
Arts 29, *Advanced Painting, Water Color or Oil*	3	
*Art-Ed. 91, *Problems of Teaching Art in Elem. Schools*	3	
*Art-Ed. 92, *Problems of Teaching Art in Secondary Schools*	3	
Ed-Art 94, *Supervised Teaching*		6–14
Electives:		
†Educ. 45, *N. H. State Program of Studies and School Law*	2	
‡Educ. 61, *Prin. and Problems of Teaching in the Sec. School*	4	
	18	6–14§

*May be taken in Summer Session between Junior and Senior years.

†For students planning to teach in the State of New Hampshire.

‡For those students who plan to teach in Art and some other area.

§The student should take enough credits in Student Teaching to reach the 140 needed for graduation. He may not, however, take less than 6 credits.

COLLEGE OF LIBERAL ARTS

HOME ECONOMICS TEACHER PREPARATION CURRICULUM

(For Teaching in High School and in Extension Work)

Freshman Year

	First Semester Credits	Second Semester Credits
See Freshman requirements, page 109		
Home Ec. 3, 4, *Clothing Selection and Textiles*	3	3

Sophomore Year

Phys. Ed. 3, 4	1	1
Chem. 1–2, *General Chemistry*	4	4
Educ. 42, *Educational Psychology of Adolescence*		3
Eng., *A year of English*	3	3
H. Ec. 5, 6, *Clothing Construction*	2	2
H. Ec. 15, 16, *Foods*	3	3
Psych. 11, *Principles of Human Behavior*	3	
Elective		3
	16	19

Junior Year

Phys. Ed. 5, 6	1	1
Educ. 51, 52, *Social Backgrounds of American Secondary Education and Principles of American Secondary Education*	3	3
H. Ec. 25, 26, *Child Development*	3	3
H. Ec. 31, *Home Building*	3	
H. Ec. 32, *Home Furnishing*		3
H. Ec. 37, *Home Nursing*	2	
H. Ec. 38, *Household Mechanics*		2
H. Ec. 74, *Dietetics*		3
Suggested Electives		
Agr. Chem. 5, 6, *Organic and Biol. Chem.; Chem. of Food and Nutrition*	5	3
H. Ec. 61, *Advanced Problems in Clothing Const.*	2	
H. Ec. 71–72, *Advanced Problems in Foods*	2	2
	18	18

Senior Year

Educ. 61, *Prin. and Problems of Teaching in Secondary School*	4	
H. Ec. 33, *Home Management*	3	
H. Ec. 35, *Home Management House*	3	
H. Ec. 83, *Home and Family Life*	3	
H. Ec.—Ed. 91, *Problems in Teaching High School Home Econ.*	3	
H. Ec.—Ed. 94, *Supervised Teaching*		6–11
H. Ec.—Ed. 96, *Seminar*		3
Electives:		
†Educ. 45, *N. H. State Program of Studies and School Law*	2	
Home Ec. 61—*Adv. Problems in Clothing*	2	
Home Ec. 71—*Adv. Problems in Foods*	2–3	
	20	14

†Required of students planning to teach in New Hampshire.

UNIVERSITY OF NEW HAMPSHIRE

MUSIC EDUCATION CURRICULUM

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109		
Applied Music, *Piano, Violin, or Voice*	1–3	1–3
Music 11, 12, *Elements of Music*	3	3
	18	18

Sophomore Year

Mil. Sci. 3, 4	1½	1½
Phys. Ed. 3, 4, *For Women*	1	1
Phys. Ed. 33, 34, *For Men*	½	½
Applied Music, *Piano, Voice, or Violin*	3	3
Educ. 42, *Educational Psychology of Adolescence*		3
Eng. (*A year of English*)	3	3
Music 21, 22, *Harmony and Beginning Counterpoint*	3	3
Music 37, 38, *Music History and Literature*	3	3
Musical Organizations	1	1
Psych. 11, *Principles of Human Behavior*	3	
	18	18

Junior Year

Phys. Ed. 5, 6, *For Women*	1	1
Applied Music, *Piano, Voice, or Violin*	2	2
Educ. 51, *Social Backgrounds of American Secondary Education,* and Educ. 52, *Principles of American Secondary Education*	3	3
Music 47, 48, *Music History and Literature*	3	3
Mu-Ed. 91, *Problems in the Teaching of Elementary School Music*	3	
Mu-Ed. 92, *Problems in the Teaching of Secondary School Music*		3
Mu-Ed. 96, *The Teaching of Woodwind Instruments*		2
Mu-Ed. 97, *The Teaching of Brass and Percussion Instruments*	2	
Musical Organizations	1	1
Electives		
	18	18

Senior Year

Applied Music, *Piano, Voice, or Violin*	1	1
Ed-Mu. 93, *Supervised Teaching of Elemenatry School Music*	3–6	
Ed-Mu. 94, *Supervised Teaching of Secondary School Music*		3–6
Mu-Ed. 95, *The Teaching of Stringed Instruments*	2	
Music 53, 54, *Orchestration and Conducting*	3	3
Musical Organizations	1	1
Electives:		
*Educ. 45, *N. H. State Program of Studies and School Law*	2	
	16	16

*For students planning to teach in the State of New Hampshire.

Detailed description of this curriculum appears on page 140.

COLLEGE OF LIBERAL ARTS

UNIVERSITY PHYSICAL EDUCATION TEACHER PREPARATION CURRICULUM FOR MEN

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109. (*Include Biol. 1–2.*)		
Basic course in second teaching major, *First year*		
	18	18

Sophomore Year

Mil. Sci. 3, 4	1½	1½
Phys. Ed. 33, 34	½	½
Educ. 42, *Educational Psychology of Adolescence*		3
Eng. (*A year of English*)	3	3
Phys. Ed. 23, *Principles of Physical Education*	3	
Psych. 11, *Principles of Human Behavior*	3	
Second teaching major, *Second year*	3	3
Zool. 17, 18, *Human Anatomy and Physiology*	3	3
	19	19

Junior Year

*Educ. 45, *N. H. State Program of Studies and School Law*	2	
Educ. 51, *Social Backgrounds of American Secondary Education,* and Educ. 52, *Principles of American Secondary Education*	3	3
Educ. (61), *Principles and Problems of Teaching in Secondary Schools*		4
‡Ed.-P.E. 93, *Directed Teaching in Physical Education*		3
Phys. Ed. 61, *Problems of Teaching in Physical Education*	3	
†Problems of coaching, *P.E. 45, 47 or 48*	2	
†Problems of coaching, *P.E. 40, 46*		2
Second teaching major	3	3
Elective, *First teaching minor*	3	3
Electives		
	19	19

Senior Year

‡Ed.-P.E. 93, *Directed Teaching in Physical Education*	3	
Phys. Ed. 65, *Administration of Physical Education in Secondary Schools*	3	
†Problems of coaching, *P.E. 45, 47 or 48*	2	
Problems in teaching, *Second teaching major,* i.e., Eng-Ed. 91, etc.	3	
Second teaching major	3	
Supervised teaching in major or majors, *i.e., Ed-Eng. 94, etc.*		6–14
Elective:		
Phys. Ed. 63, *Care and Prevention of Athletic Injuries*	2	
	18	6–14§

*For students planning to teach in the State of New Hampshire.

†Two problems of coaching courses are required.

‡This course is required and may be elected either in the second semester of the Junior or Senior year or the first semester of the Senior year.

§The student should take enough credits in Student Teaching to reach the 140 needed for graduation. He should not, however, take less than 6 credits.

Detailed description of this curriculum appears on page 140.

UNIVERSITY OF NEW HAMPSHIRE

UNIVERSITY PHYSICAL EDUCATION TEACHER PREPARATION CURRICULUM FOR WOMEN

Freshman Year

	First Semester Credits	*Second Semester Credits*
See Freshman requirements, page 109. (*Include Biol. 1–2.*)		
Basic course in second teaching major, *First year*		
Suggested Elective:		
Phys. Ed. 11, 12		
	18	18

Sophomore Year

Phys. Ed. 3, 4	1	1
Phys. Ed. 13, 14	1	1
Educ. 42, *Educational Psychology of Adolescence*		3
Eng. (*A year of English*)	3	3
Phys. Ed. 23, *Principles of Physical Education*	3	
Psych. 11, *Principles of Human Behavior*	3	
Second teaching major, *Second year*	3	3
Zool. 17, 18, *Human Anatomy and Physiology*	3	3
Suggested Elective:		
First teaching minor, or Phys. Ed. 24		
	18	18

Junior Year

Phys. Ed. 5, 6	1	1
Phys. Ed. 63, 64, *The Theory*	3	3
Phys. Ed. 66, *Administration of Phys. Ed.*		3
Educ. 51, *Social Backgrounds of American Secondary Education,* and Educ. 52, *Principles of American Secondary Education*	3	3
Educ. 61, *Principles and Problems of Teaching in Secondary Schools*		4
First teaching minor	3	3
Second teaching major	3	
Teaching minor	3	
Elective		
	19	19

SENIOR YEAR

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 7	1	
*Educ. 45, *N. H. State Program of Studies and School Law*	2	
Phys. Ed. 55, *Remedial Gymnastics*	3	
Phys. Ed. 91, *Problems in the Teaching of Physical Education for Women*	4	
Problems in teaching (Second teaching major—e.g., Eng.-Ed. 91, etc.)	3	
Second teaching major	3	
Supervised teaching in major or majors—e.g., Ed.-Eng. 94, etc.		6–14
	18	6–14†
Alternate Second Semester:		
Phys. Ed. 24, *Organized Camping*		3
Phys. Ed. 36, *Recreation Leadership*		3
Phys. Ed. 92, *Directed Teaching of Phys. Ed. for Women*		2
Teaching minor, *if not taken second semester of Sophomore year*		3
		12

*For students planning to teach in the State of New Hampshire.

†The student should take enough credits in student teaching to reach the 140 needed for graduation. He should not, however, take less than 6 credits.

DETAILED DESCRIPTION OF THIS CURRICULUM APPEARS ON PAGE 141.

COLLEGE OF TECHNOLOGY

GEORGE W. CASE, *Dean* *
LEON W. HITCHCOCK, *Acting Dean*

DEPARTMENTS

ARCHITECTURE
CHEMISTRY AND CHEMICAL ENGINEERING
CIVIL ENGINEERING
ELECTRICAL ENGINEERING
MATHEMATICS
MECHANICAL ENGINEERING
PHYSICS

REQUIREMENTS FOR DEGREES

Baccalaureate Degrees.—Each candidate for a degree must complete 140 semester credits including the courses required in one of the Four-Year Curriculums.

Professional Degrees.—Mechanical, Electrical, and Civil Engineering graduates of the University of New Hampshire are eligible to register as candidates for professional degrees in these three branches of Engineering.

These degrees will be granted, after the preparation and submission of acceptable theses, to those having not less than four years' satisfactory professional experience subsequent to the Bachelor's degree, in which the applicants have wholly or in part supervised, directed or designed engineering work; or have been in responsible charge of instruction or research in Engineering. The acceptability of the theses and professional experience is determined by an Examining Committee.

PROCEDURE.—The procedure for candidates for professional Engineering degrees is as follows:

(1) Prepare an outline for a thesis after consultation with the Head of the Department concerned. This consultation may be by letter.

(2) When the thesis subject is accepted by the Head of the Department in which the degree is to be taken, the candidate will be registered in the Registrar's Office. This registration must be completed by October 1 of the academic year in which the degree is to be conferred.

(3) The first draft of the thesis must be submitted to the Professor in charge not later than March 1, and the completed thesis in its final form by May 1.

*On leave of absence.

(4) Pass an oral examination at the University covering the candidate's professional practice and the engineering principles underlying the thesis.

(5) Pay the commencement fee of $5.00 at the Business Office not later than 12 noon of the Saturday next preceding the date when the degree is conferred.

THESIS.—The thesis must be typewritten upon standard paper, 8½ by 11 inches, medium weight, neatly bound in black cloth, and gilt-lettered on the first cover with title, name of author, degree sought, and year of graduation. The title page should bear the following statement:

"A thesis submitted to the University of New Hampshire in partial fulfillment of the requirements for the professional degree of mechanical engineer (electrical engineer, civil engineer)."

Whenever a thesis is printed in any periodical, it must be designated as having been accepted as a Professional Engineering Thesis by the University of New Hampshire.

Two bound copies must be filed before Commencement Day, one with the Librarian and one with the Head of the Department in which the major work is done.

CURRICULUMS

The College of Technology offers the following Four-Year Curriculums:

ARCHITECTURE CURRICULUM.—For a description of this Curriculum, now replaced by the two which follow, see the 1942-43 catalogue.

ARCHITECTURAL ENGINEERING CURRICULUM.—This Curriculum is planned to prepare the student for efficient service as a draftsman or designer in an architectural or industrial organization and to provide him with a broad cultural background as a foundation for future independent practice. The diversified demands upon the professional architect make it advisable for the student to extend his formal education and to acquire experience in the practical fields of building construction. To this end, the curriculum is made sufficiently flexible to afford opportunities for preparation in such allied fields as Architectural and Engineering Drafting, Building Contracting, Construction Superintendence, and Industrial Design as related to Building Products.

The work of the Freshman year is common to that of the other Engineering Curriculums, and the student's election of this Curriculum takes place at the beginning of the Sophomore year.

The following three years aim to provide fundamental instruction and discipline in the Art, Science, Theory, and History of Architecture with equal stress being given to the structural and aesthetic qualities of building construction and design. In the fourth year the work is

closely correlated to harmonize with those procedures common to an architect's office practice, including working drawings and specifications, contract forms, accounting, and bookkeeping.

Building Construction and Marketing Curriculum.—This Curriculum is designed for a young man who wishes to make building in any of its branches his chosen life work. It aims to provide sound basic training in the design, construction, and marketing of structures and facilities required for housing or shelter, and develop in the student a conception of the related problems of the architect, engineer, builder, and materials manufacturer and distributor in the process of planning and erecting buildings, to the end that he may eventually become a principal or a responsible manager in any of the many varied fields of this great industry.

Following the fundamental scientific and mathematical training of the first year, which is common to all the Engineering curriculums, the student who has chosen this program will continue through his second year with a carefully selected series of studies in the fundamentals of Design and Economics. Thus the work of the second year will direct him in his selection of one of the two options offered in the third year which definitely recognize the two broad fields of Design and Marketing. The Design Option prepares the student for efficient service as a draftsman or designer in an architectural, a contracting, or a building materials organization, while the marketing option points toward a career in the building industry marketing fields as salesman, sales manager, merchant, merchandiser or distribution engineer.

This Curriculum has been so organized that no matter what field of endeavor most appeals to the student at first, a re-evaluation of his aptitude for specialization may take place at any time, and he be permitted to choose within his Option that objective best suited to his needs and abilities. In the third and fourth years a liberal allowance is made for an election of courses covering the many varied aspects of the legal, social, and economic phases of shelter.

Chemistry and Chemical Engineering Curriculums. These Curriculums are intended to prepare the student for the career of a professional chemist or chemical engineer and to give a good foundation for further study in graduate schools leading to original and independent research.

Instruction is imparted by lectures, recitations, and carefully supervised laboratory work. The laboratory study is largely individual, and the work of each student is conducted with reference not only to the particular subject he may have in view, but also to the acquirement of a broad knowledge of chemical science. The student is given a training in either German or French to enable him to read with ease the chemical literature, and a grounding in Mathematics and

Physics necessary for Advanced Theoretical Chemistry or Chemical Engineering. In the Chemistry Option further courses in pure science and an independent research project are offered, whereas the Option in Chemical Engineering offers a limited amount of special work in Mechanics, Electrical Engineering and Thermodynamics and thorough courses in undergraduate chemical engineering subjects. The student in both Options is encouraged to develop the power of solving chemical problems by independent thought through the aid of the reference library and chemical periodicals.

Civil Engineering Curriculum.—This Curriculum is designed to give the student theoretical and practical instruction in the principles upon which the practice of civil engineering is based, and to allow him the opportunity to apply these principles to problems of professional practice in the classroom, in the design room, and in the field.

Civil engineering, the oldest of the engineering professions, covers a broad field of activity, including Topographical, Structural, Transportation, Hydraulic and Sanitary Engineering. This Curriculum places about equal emphasis upon each of these various branches and allows the student some opportunity to develop his special interests through the thesis requirement.

Electrical Engineering Curriculum.—The Electrical Engineering Curriculum is intended to meet the demands of young men fitting themselves for professional Engineering in connection with the various applications of electricity.

Courses are presented by lectures, recitations, and laboratory practice in such a manner as to make the material of immediate service to the graduate, as well as prepare him to understand the constantly increasing number of new developments in this field.

Mechanical Engineering Curriculum.—The Mechanical Engineering Curriculum is intended to prepare young men for positions in the field of the mechanical industries. The courses in the Curriculum include Mathematics, Physics and Chemistry, Drawing, Shop Work, Machine Design, Electrical Engineering, Power Engineering, and also courses in Economics and English. Throughout the Curriculum the theoretical work is supplemented by practice in mechanical operations and scientific research, by training in the use of tools for working wood and metals, and by experimental tests and demonstrations in the mechanical, electrical, chemical, and physical laboratories.

Physics Curriculum.—The Technology Curriculum in Physics is similar to Physics Curriculums offered in other institutions endeavoring to emphasize the adaptations of Physics to industry. The prescribed work of the Freshman year follows the work given students in both Electrical and Mechanical Engineering.

Chemistry and Mathematics are prescribed in the Freshman, Sophomore, and Junior years. The Physics courses are offered in the Sophomore, Junior, and Senior years.

The position of physicists in industry will be of more importance in the future. The training of physicists for positions in industry is made more valuable when the student physicist takes much of his college work in classes with other Engineering students.

ALUMNI REPRESENTATION.—An Advisory Committee of Alumni of the College of Technology, composed of men in direct contact with industry and practical professional affairs, serves to keep the Faculty in touch with developments in the several fields which attract our graduates. Members of this committee also serve as consultants when important changes in curriculums, Faculty personnel, and policies of administration are considered. The members are:

Henry H. Calderwood, B.S. in E.E., '01, 20 Prospect Street, Saugus, Mass.

John T. Croghan, B.S. in M.E., '08, 574 Chestnut Street, Waban, Mass.

Robert A. Neal, B.S. in E.E., '10, D.Sc. '44, 316 Burlington Road, Wilkinsburg, Pa.

Lester A. Pratt, Ph.D., '09, 7 Everett Avenue, Winchester, Mass.

COLLEGE OF TECHNOLOGY

ARCHITECTURAL ENGINEERING

Freshman Year

	First Semester Credits	Second Semester Credits
Phys. Ed. 31–32	½	½
Mil. Sci. 1–2	1½	1½
Chem. 3-4 *General Chemistry*	4	4
*Eng. 45–46 *English for Engineers*	3	3
Math. 5–6 *First Year Mathematics*	5	5
M.E. 1–2 *Engineering Drawing*	2	2
M.E. S1, S2, S3 *Elementary Shop Practice*	1½	1½
	17½	17½

Sophomore Year

Phys. Ed. 33–34	½	½
Mil. Sci. 3–4	1½	1½
Arch. (2) *Elements of Architecture*	2	
Arch. 9 *Principles of Architectural Design*	2	
Arch. (24) *Shades, Shadows, Perspective*	2	
Arch. 26 *Architectural Design*		2
Arts 24 *Elementary Drawing and Design*		2
Math. 17–18 *Calculus*	3	3
Phys. 7–8 *General Physics*	4	3
Phys. 9–10 *Physics Laboratory*	3	3
	18	15

Junior Year

Arch. 5–6 *History of European Architecture*	2	2
Arch. 27–28 *Architectural Design*	3	3
Arts 27–28 *Water Color Painting*	2	2
C.E. 15 *Engineering Materials*	3	
C.E. 27–28 *Theory of Structures*	4	4
M.E. 9–10 *Mechanics*	3	4
Approved electives	3	3
	20	18

Senior Year

Arch. 7 *History of American Architecture*	2	
Arch. 15 *Professional Practice*	2	
Arch. 16 *Specifications and Supervision*		2
Arch. 17–18 *Plumbing, Heating, and Electric Equipment*	3	3
Arch. 29–30 *Architectural Design*	4	4
C.E. 65 *Structural Design*	4	
C.E. 66 *Reinforced Concrete Structures*		4
Approved electives	3	3
	18	16

*A student must meet the requirements of Eng. 1 also. See course description.

BUILDING CONSTRUCTION AND MARKETING

Freshman Year

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 31–32	½	½
Mil. Sci. 1–2	1½	1½
Chem. 3–4 *General Chemistry*	4	4
*Eng. 45, 46 *English for Engineers*	3	3
Math. 5–6 *First Year Mathematics*	5	5
M.E. 1–2 *Engineering Drawing*	2	2
M.E. S1, S2, S3 *Elementary Shop Practice*	1½	1½
	17½	17½

The following subjects may, with the approval of the Dean of the College of Technology, be substituted for Math. 5–6, Chemistry 3–4:

Chem. 1, 2 *General Chemistry*	4	4
Geol. 1, 2 *Principles of Geology*	4	4
Math. 1, 2 *General Mathematics*	3	3

Sophomore Year

Phys. Ed. 33–34	½	½
Mil. Sci. 3–4	1½	1½
Acc. 1–2 *Elementary Accounting*	4	4
Arch. (2) *Elements of Architecture*	2	
Arch. 4 *Significance of Architecture*		2
Arch. (24) *Shades, Shadows, Perspective*	2	
Arch. 26 *Architectural Design*		2
Arts 23, 24 *Elementary Drawing and Design*	2	2
Econ. 1–2 *Principles of Economics*	3	3
Phys. 1–2 *Introduction to Physics*	4	4
	19	19

Design Option

Junior Year

Arch. 5, 6 *History of European Architecture*	2	2
Arch. 9 *Principles of Architectural Design*	2	
Arch. 14 *Domestic Architecture*		2
Arch. 19–20 *Building Construction*	3	3
Arch. 27–28 *Architectural Design*	3	3
Arts 25, 26 *Advanced Drawing and Design*	2	2
Approved elective	3	3
M.E. 11–12 *Mechanics*	3	3
	18	18

Senior Year

Arch. 7 *History of American Architecture*	2	
Arch. 15 *Professional Practice*	2	
Arch. 16 *Specifications and Supervision*		2
Arch. 29–30 *Architectural Design*	4	4
Arch. (35) *Working Drawings*		2
Arts 27–28 *Water Color Painting*	3	3
Approved electives	4	4
	15	15

*A student must meet the requirements of Eng. 1 also. See course description.

COLLEGE OF TECHNOLOGY

MARKETING OPTION

Junior Year

	First Semester Credits	Second Semester Credits
Acc. 3–4 *Intermediate Accounting*	4	4
Arch. 9 *Principles of Architectural Design*	2	
Arch. 14 *Domestic Architecture*		2
Arch. 19–20 *Building Construction*	3	3
Econ. 55 *Corporations*	3	
Econ. 56 *Corporation Finance*		3
Approved electives	5	5
	17	17

Senior Year

Acc. 7–8 *Cost Accounting*	4	4
Agr. Eng. 15 *Farm Buildings and Equipment*	2	
Arch. 7 *History of American Architecture*	2	
Arch. 15 *Professional Practice*	2	
Arch. 16 *Specifications and Supervision*		2
Arch. 35 *Working Drawings*	2	
Econ. 24 *Marketing*		3
Math. 34 *Mathematics of Finance*		3
Approved electives	4	4
	16	16

APPROVED ELECTIVES

Arch. 17, 18, *Plumbing, Heating, and Electrical Equip.;* Arts 31, 32, *Introduction to the Arts;* C.E. 2, *Surveying;* C.E. 15, *Engineering Materials;* C.E. 27, 28, *Theory of Structures;* Econ. 21, 22, *Commercial Law;* Econ. 53, *Money and Banking;* Eng. 35, (35) *Public Speaking;* Eng. 37, 38, *Forum Discussion and Debate;* Eng. 41, (41) *Expository Writing;* For. 25, 26, *Tree and Wood Identification;* Geol. 1, 2, *Principles of Geology;* Geol. 7, (7) *General Geology;* Govt. 1, 2, *Citizenship;* Govt. 61, (61)) *Community Planning;* H.Ec. 31, 32, *Home Building and Furnishing;* H.Ec. 9, 10, *Handicrafts;* H.Ec. 11, 12, *Pottery;* H.Ec. 33, 34, *Home Management;* Hort. 28, *Elementary Landscape Gardening;* M.E. S4, *Wood Work;* M.E. S13, *Forge Shop;* M.E. S17, *Machine Shop;* Phil. 71, *Art of Thinking — Logic;* Phil. 83, 84, *Evolution of Social Values and Ethical Judgments;* Phys. 15, 16, *Survey of Physical Science;* Phys. 54, *Acoustics;* Poult. 22, *Poultry Housing;* Psych. 33, *Psychology for Students of Commerce;* Psych. 34, *Psychology of Advertising;* Psych. 36, *Psychology of Personnel;* Soc. 57, *Rural Sociology;* Soc. 60, *Urban Sociology;* Soc. 66, *Organization of Town and Country Life.*

UNIVERSITY OF NEW HAMPSHIRE

TECHNOLOGY CURRICULUM IN CHEMISTRY AND CHEMICAL ENGINEERING

Freshman Year

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 31, 32	½	½
Mil. Sci. 1–2	½	½
Chem. 3, 6 *General; Inorganic*	4	6
*Eng. 45, 46 *English for Engineers*	3	3
Geol. (7) *General Geology*		2
M.E. 1 *Engineering Drawing*	2	
M.E. S1, S2 or S3 *Elementary Shop Practice*	1½	
	17½	

Sophomore Year

Phys. Ed. 33, 34	½	½
Mil. Sci. 11–12	1½	1½
Chem. 21 *Semi-Micro Qualitative Analysis*	4	
Chem. 22 *Quantitative Analysis*		5
Ger. 1– or 5–6 *German or approved elective*	3	3
Math. 7–8 *Calculus*	3	3
Phys. 7–8 *General Physics*	3	3
Phys. 9–10 *Physics Laboratory*	4	3
	19	19

Junior Year

Chemistry Option

Approved Elective Non-Physical Science	3	3
Chem. 31 *Stoichiometry and Tech. Quantitative Analysis*	5	
Chem. 47–48 *Organic*	5	5
Chem. 62 *Advanced Quantitative Analysis*		4
Chem. 83–84 *Physical Chemistry*	5	5
	18	17

Chemical Engineering Option

Chem. 31 *Stoichiometry and Tech. Quantitative Analysis*	5	
Chem. 47, 48 *Organic Chemistry*	5	5
Chem. 71–72 *Unit Processes*	2	2
Chem. 74 *Unit Operations*		3
Chem. 83–84 *Physical Chemistry*	5	5
M.E. 9, 10 *Mechanics, or approved elective*	3	3
	20	18

*A student must meet the requirements of Eng. 1 also. See course description.

Senior Year

Chemistry Option

	First Semester Credits	*Second Semester Credits*
Chem. 51, 56 *Organic Chemistry*	3	3
Chem. 71–72 *Unit Processes*	2	2
Chem. 85–86 *Physical Chemistry*	3	3
Chem. 87–88 *Chemical Literature and Seminar*	1	1
Chem. 89–90 *Thesis*	4	4
Elective (*Non-Physical Science*)	3	3
	16	16

Chemical Engineering Option

Chem. 75 *Unit Operations*	3	
Chem. 76 *Chemical Engineering Economics*		3
Chem. 77 *Unit Operations Laboratory*	3	
Chem. 78 *Chemical Plant Design*		3
Chem. 79 *Chemical Engineering Thermodynamics*	3	
Chem. 80 *Chemical Engineering Project*		5
Chem. 87–88 *Chemical Literature and Seminar*	1	1
E.E. 33 *Fundamentals of Electricity*	4	
Elective		3
	14	15

UNIVERSITY OF NEW HAMPSHIRE

CIVIL ENGINEERING

Freshman Year

	First Semester Credits	*Second Semester Credits*
Freshman Assembly (*Required as Scheduled*)		
Phys. Ed. 31, 32	½	½
Mil. Sci. 1–2	1½	1½
Chem. 3–4 *General Chemistry*	4	4
C.E. 2 *Surveying*		2
*Eng. 45, 46 (*English for Engineers*)	3	3
Math. 5–6 *First Year Mathematics*	5	5
M.E. 1–2 (*Engineering Drawing*)	2	2
M.E. S1, S2 or S3 *Elementary Shop Practice*	1½	
	17½	18

Sophomore Year

Phys. Ed. 33, 34	½	½
Mil. Sci. 3–4	1½	1½
C.E. 3–4 *Surveying*	6	3
C.E. 6 *Route Surveying*		3
Math. 7–8 *Calculus*	3	3
Phys. 7–8 *General Physics*	4	3
Phys. 9–10 *Physics Laboratory*	3	3
	18	17

Junior Year

C.E. 15 (*Engineering Materials*)	3	
C.E. 52 (*Hydraulics*)		4
C.E. 27–28 (*Theory of Structures*)	4	4
C.E. 41, 42 (*A.S.C.E.*) (*Required*)		
E.E. 36 (*Practical Electricity*)		4
Geol. 7 (*General Geology*)	2	
M.E. 9–10 (*Mechanics*)	3	4
M.E. 21 (*Heat Power Engineering*)	3	
Approved elective	3	3
	18	19

Senior Year

C.E. 38 *Thesis*		2
C.E. 43, 44 (*A.S.C.E.*) *Required*		
C.E. 61 *Highway Engineering and Transportation*	4	
C.E. 62 *Foundation Engineering*		3
C.E. 63–64 *Hydraulic and Sanitary Engineering*	4	4
C.E. 65 *Structural Design*	4	
C.E. 66 *Reinforced Concrete Structures*		4
Eng. 41 *Expository Writing*	2	
Approved elective	3	3
	17	16

*A student must meet the requirements of Eng. 1 also. See course description.

COLLEGE OF TECHNOLOGY

ELECTRICAL AND MECHANICAL ENGINEERING

Freshman Year

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 31, 32	½	½
Mil. Sci. 1–2	1½	1½
Chem. 3–4 *General Chemistry*	4	4
*Eng. 45, 46 *English for Engineers*	3	3
Math. 5–6 *First Year Mathematics*	5	5
M.E. 1–2 *Engineering Drawing*	2	2
M.E. S1, S2, S3 *Elementary Shop Practice*	1½	1½
	17½	17½

*A student must meet the requirements of Eng. 1 also. See course description.

ELECTRICAL ENGINEERING

Sophomore Year

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 33, 34	½	½
Mil. Sci. 3–4	1½	1½
C.E. 9 *Surveying*	2	
E.E. 1–2 *Electrical Engineering*	2	4
Math. 7–8 *Calculus*	3	3
M.E. 3 *Machine Drawing*	2	
M.E. 4 *Kinematics*		3
Phys. 7–8 *General Physics*	4	3
Phys. 9–10 *General Physics Laboratory*	3	3
	18	18

Junior Year

Math. 51, 52, 54 *Differential Equations and Vector Analysis or Approved elective*	3	3
E.E. 13, 14 *Electrical Problems*	2	3
E.E. 15, 16 *A.I.E.E. Required*		
E.E. 23–24 *Electrical Laboratory*	2	2
E.E. 53–54 *Electrical Engineering*	3	3
M.E. 9–10 *Mechanics*	3	4
M.E. 25–26 *Heat Power Engineering*	3	4
M.E. 27 *Mechanical Laboratory*	2	
	18	19

Senior Year

C.E. 23 *Hydraulics*	3	
*E.E. 7, 58 *Electronics and Communications*	3	4
E.E. 12 *Illumination*		2
E.E. 17, 18 *A.I.E.E. Required*		
*E.E. 19, 20 *Thesis*	3	3
E.E. 25 *Electrical Laboratory*	4	
E.E. 55 *Electrical Engineering*	3	
*E.E. 60 *Advanced Circuit Theory*		4
*E.E. 76 *Electrical Laboratory*		4
*E.E. 78 *Advanced Electrons Laboratory*		4
Eng. 41 *Expository Writing*		2
*M.E. 65 *Industrial Management*	3	
*M.E. 66 *Engineering Economy*		3
Approved non-technical elective *optional*		3
	18	14

*E.E. 58, 19, 20, 60, 76, 78, M.E. 65, 66, are elective courses.

COLLEGE OF TECHNOLOGY

MECHANICAL ENGINEERING

Sophomore Year

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 33, 34	½	½
Mil. Sci. 3–4	1½	1½
C.E. (9) *Surveying*		2
Math. 7–8, *Calculus*	3	3
M.E. 3, *Machine Drawing*	2	
M.E. 4, *Kinematics*		3
M.E. 5–6, *Mechanical Laboratory*	1	1
M.E. S17, *Machine Shop*	2	
Phys. 7–8, *General Physics*	4	3
Phys. 9–10, *General Physics Laboratory*	3	3
	17	17

Junior Year

Approved elective	3	3
C.E. 24, *Hydraulics*		3
E.E. 37–38, *Electrical Machinery*	4	4
M.E. 7–8, *Mechanics*	4	4
M.E. 13, *Elementary Metallurgy*	2	
M.E. 23, 24, *Thermodynamics*	3	3
M.E. 29, 30, *Mechanical Laboratory*	2	1
M.E. 59, 60, *A.S.M.E.*		
	18	18

Senior Year

Approved elective	3	3
Eng. 41, *Expository Writing*		2
M.E. 15, 16, *Machine Design*	3	3
M.E. 17, *Heat Treatment Laboratory*	1	
M.E. 39, *Heating and Ventilating*	2	
M.E. 49, *Thesis*	2	
M.E. 52, *Mechanical Laboratory*		2
M.E. 53, 54, *Power Plants*	2	3
M.E. 55–56 or 37, 38, *Internal Combustion Engines* or *Aeronautics*	3	3
M.E. 65, *Industrial Management*	3	
M.E. 61, 62, *A.S.M.E.*		
	19	16

UNIVERSITY OF NEW HAMPSHIRE

TECHNOLOGY CURRICULUM IN PHYSICS

Freshman Year

	First Semester Credits	*Second Semester Credits*
Phys. Ed. 31, 32	½	½
Mil. Sci. 1–2	1½	1½
Chem. 3, 4, *General Chemistry*	4	4
*Eng. 45, 46, *English for Engineers*	3	3
Math. 5, 6, *First-year Mathematics*	5	5
M.E. 1, 2, *Engineering Drawing*	2	2
M.E. S1, S2, S3, *Elementary Shop Practice*	1½	1½
	17½	17½

Sophomore Year

Phys. Ed. 33, 34	½	½
Mil. Sci. 3–4	1½	1½
Chem. 25, 26, *Intro. Quan. and Qual. Analysis*	3	3
Ger. 1–2 or 5–6, *German*	3	3
Math. 7–8, *Calculus*	3	3
Phys. 7, 8, *General Physics*	4	3
Phys. 9, 10, *General Physics Laboratory*	3	3
	18	17

Junior Year

Approved elective	3	3
Chem. 83, 84, *Elementary Physical Chemistry*	5	5
Math. 51, 52, *Advanced Calculus, Diff'l. Eq'ns*	3	1
Math. 54, *Vector Analysis*		2
Phys. 61, 64, *Electrical Theory and Measurements*	3	3
Phys. 65, 66, *Molecular Physics*	3	3
Phys. 71, 72, *Seminar*	1	1
	18	18

Senior Year

Approved electives	6	6
Phys. 55, 56, *Experimental Physics*	4	4
Phys. 57, 58, *Intro. to Theoretical Physics*	3	3
Phys. 71, 72, *Seminar*	1	1
Phys. 73, 74, *Thesis*	3	3
	17	17

*A student must meet the requirements of Eng. 1 also. See course description.

GRADUATE SCHOOL

HERMON L. SLOBIN. *Dean*

DIVISIONS

BIOLOGICAL SCIENCES
(Chairman: Prof. L. W. Slanetz)
- Agronomy
- Animal Industry
- Bacteriology
- Botany
- Entomology
- Horticulture
- Poultry Husbandry
- Zoology

EDUCATION
(Chairman: Prof. A. M. Stowe)
- Education

ENGINEERING
(Chairman: Prof. E. L. Getchell)
- Civil Engineering
- Electrical Engineering
- Mechanical Engineering

LANGUAGES AND LITERATURE
(Chairman: Prof. C. S. Parker)
- English
- Languages

PHYSICAL SCIENCES
(Chairman: Prof. A. F. Daggett)
- Agricultural and Biological Chemistry
- Chemistry
- Geology
- Mathematics
- Physics

SOCIAL SCIENCES
(Chairman: Prof. Norman Alexander)
- Agricultural Economics
- Economics
- Government
- History
- Philosophy
- Psychology
- Sociology

OBJECTIVES

The Graduate School is designed to meet the needs of superior students for a more advanced training than may be obtained in an undergraduate curriculum. Graduate work is offered by competent members of the University Departments of instruction and research, who constitute the School Faculty. Administrative functions and supervision of advanced students are delegated to the Dean of the Graduate School and the Committee on Graduate Study.

ADMISSION

Admission to the Graduate School may be granted to graduates of all colleges and universities of approved standing provided their

undergraduate records are satisfactory. Before entering upon graduate work in any division the applicant must present evidence to the effect that he has had the necessary prerequisite training that will enable him to pursue with profit the courses desired. A candidate for admission who intends to work for a Master's degree must have had an undergraduate average of not less than 2.5 honor points* or the equivalent, throughout his entire program of study. This requirement may be waived upon petition to the Executive Committee in the case of a mature college graduate who gives evidence of adequate professional experience or advanced study since graduation from an undergraduate program. Admission to the Graduate School does not imply admission to candidacy for the degree. A candidate for admission who does not intend to be a candidate for a degree may enroll in the Graduate School for any courses for which he has had sufficient preparation. No graduate student is admitted to candidacy for a degree until he has been in residence a sufficient time to enable his instructors to judge his ability to carry on graduate work. Generally this period of time shall be not less than one semester or two summer sessions. Admission to candidacy for a degree will be determined by the Executive Committee.

Registration

A student desiring to register for graduate study must submit to the Dean of the Graduate School the official application for admission to graduate study. Blanks for this purpose may be obtained from the Dean's office. A student's program of courses must be approved by his Advisor, the Chairman of a Division, and the Dean.

Tuition

Tuition in the Graduate School is at the rate of $5.50 per semester credit for New Hampshire residents and $9.00 per semester credit for non-residents. Tuition for members of the regular University Staff is one-half the rate for residents.

Advanced Degrees

The advanced degrees conferred are: Master of Science, Master of Arts, Master of Education, and Master of Science in Engineering.

Requirements for the Master's Degree

Residence.—A minimum of one full academic year, or four summer sessions of six weeks each, at the University of New Hampshire.

*See page 52.

In the case of a student who offers six semester credits earned in another graduate school, the residence requirement will be reduced to three summer sessions or one semester and one summer session.

Subject.—A candidate for a degree will be enrolled in one of the Divisions of the School and will do his work in the field of that Division or in one of the subjects of the field.

Credits.—To obtain a Master's degree the candidate must earn not less than 30 semester credits.

In general, all graduate work must be completed within a period of not more than eight years.

Transferred Credits.—Of the total credits required for a Master's degree not more than six may be transferred from another graduate school.*

Graduate Credits for Senior Students.—Senior students in the University of New Hampshire must register in the Graduate School for any work for which they may subsequently apply for graduate credit.

Grades.—The passing grade in the Graduate School is C. Candidates for a degree must earn a grade of B or better in three-fourths of the work for which a letter grade is given.

Thesis.—A thesis embodying the results of original investigation is required by some of the divisions. A thesis, if required, will count towards the total of 30 credits.

Special Requirements.—A student must meet the special requirements of the Division or Sub-division in which he does his major work.

Honorary Fellowships for Visiting Scholars

Properly qualified scholars who may desire temporarily the privileges of the library and research facilities of the University and who are not candidates for a degree may, upon recommendation of the Dean of the Graduate School and the approval of the President of the University, be appointed Honorary Fellows without stipend. Honorary Fellows shall not be required to pay any charges except, possibly, the cost of unusually expensive supplies or equipment.

Assistantships and Scholarships

Graduate Assistantships, which usually require half-time service at a stated salary, are available in a number of Departments. Graduate Assistants pay tuition in accordance with the regulation pertaining

*See special regulations for veterans.

to the members of the University Staff. The residence requirement for a Master's degree for holders of these appointments is not less than two years. Inquiries regarding Assistantships should be addressed to the Head of the Department concerned.

A limited number of superior students who are legal residents of New Hampshire are awarded exemption from tuition. These awards are subject to the maintenance of a high scholarship record in the Graduate School and may be revoked at the end of any semester if the student does not merit such exemption for the subsequent semester.

Special Regulations for Veterans

Men and women released from the Armed Forces will be permitted to transfer not more than 12 of the 30 credits required for a degree under the following conditions:

1. The credits must be transferred from approved graduate schools or other approved official agencies.
2. In each case transferred credits will be accepted and evaluated by a committee consisting of the Dean of the Graduate School, the Registrar, and the Chairman of the Division concerned.
3. The remaining credits must be earned in residence.

Information

For detailed information concerning admission, requirements for degrees, courses open to graduate students, and other matters not covered above, interested persons are invited to write to the Chairmen of the Divisions or to the Dean.

DESCRIPTION OF COURSES

(Departments Alphabetically Arranged)

The University of New Hampshire continues its broad educational offering, in spite of the difficulties of the war situation. Departure of Faculty members for military or war production service has caused the cancellation of certain courses. In some areas where men normally make up the bulk of the enrollment, too few students remain to justify continuation of the work. Except in the Engineering fields, however, adjustments usually are possible to enable a student to pursue essentially the same program of studies as would have been followed in peace times. Students interested in a specialized field of study should address the Registrar for up-to-date information on expected offerings.

The title of the course is given in small capital letters. The numeral designates the particular course. Odd numerals indicate courses offered in the first semester; even numerals indicate courses offered in the second semester. Numerals enclosed in parentheses indicate that a course is repeated in the semester following. Thus course 1 (1) is offered in the first semester and is repeated in the second semester.

Courses numbered 1-50 cannot be counted for graduate credit. Courses numbered 51-100 are for undergraduate and graduate students.

Following the title is the course description and the name of the instructor.

The next paragraph gives the following information in the order indicated: (1) prerequisites, if any; (2) the number of hours of recitations or laboratory periods required each week; (3) the number of semester credits the course will count in the total required for graduation. Lectures and recitations are fifty-three minutes in length. Laboratory periods are two and one-half hours in length.

Abbreviations have been employed to indicate the number of hours of work required of students in lecture, recitation, and laboratory, and the number of credits given for satisfactory completion of each course. These abbreviations should be interpreted as follows:

Cr..... Semester hour credit
Lab..... Laboratory
Lec..... Lecture
Prereq..... Prerequisite
Rec..... Recitation

All courses (unless otherwise marked) are open to students who have passed the prerequisites.

An elective course will be given only when there is a minimum of five students registered therefor.

If the numerals designating a course running through both semesters are connected by a hyphen, the first semester, or its equivalent, is a prerequisite for the second semester. If the numerals are separated by a comma, properly qualified students may take the second semester without having had the first.

Students must register for the number of credits or within the range of credits shown in the catalogue description of a course.

ACCOUNTING

ACCOUNTING

(See Economics, page 196.)

AGRICULTURAL AND BIOLOGICAL CHEMISTRY

Thomas G. Phillips, *Professor;* Stanley R. Shimer, *Associate Professor;* Helen J. Purinton, *Assistant Professor;* Arthur E. Teeri, *Assistant Professor.*

1. Organic and Biological Chemistry. An introduction to Organic Chemistry and a brief survey of Biological Chemistry. Mr. Shimer, Mr. Phillips. Prereq.: Chem. 2. 3 lec.; 2 lab.; 5 cr.

2. Plant Chemistry. The chemistry of plant growth, soils, and fertilizers. Mr. Phillips, Mr. Teeri. Prereq.: Agr. Chem. 1 or its equivalent. 2 lec.; 1 lab.; 3 cr.

4. Animal Nutrition. The chemistry of animal nutrition. Mr. Shimer. Prereq.: Agr. Chem. 1 or its equivalent. 2 lec.; 1 lab.; 3 cr.

5. Organic and Biological Chemistry. An introduction to Organic Chemistry and a brief survey of Biological Chemistry. Mr. Shimer. Prereq.: Chem. 2. 3 lec.; 2 lab.; 5 cr.

6. Chemistry of Food and Nutrition. The chemistry of food materials and of digestion, absorption, metabolism, and excretion. Mr. Shimer, Miss Purinton. Prereq.: Agr. Chem. 5 or its equivalent. 2 lec.; 1 lab.; 3 cr.

51-52. Physiological Chemistry. The chemistry of fats, carbohydrates, and proteins; colloids, enzyme action, digestion, metabolism, and excretion. The qualitative and quantitative examination of blood and urine. Mr. Shimer, Miss Purinton, Mr. Teeri. Prereq.: Satisfactory preparation in Organic Chemistry and Quantitative Analysis. 3 lec.; 2 lab.; 5 cr.

53-54. Agricultural Analysis. A study of the methods of analysis of soils, fertilizers, feeding stuffs, and other products important in Agriculture. Mr. Phillips, Mr. Shimer. Prereq.: Satisfactory preparation in Organic Chemistry and Quantitative Analysis. 1 lec.; 3 lab.; 4 cr. (Given in alternate years; not offered in 1945-1946.)

For courses primarily for Graduate students, see Catalogue of the Graduate School.

AERONAUTICS

(See Mechanical Engineering, page 243.)

UNIVERSITY OF NEW HAMPSHIRE

AGRICULTURAL ECONOMICS

HARRY C. WOODWORTH, *Professor;* HAROLD C. GRINNELL, *Associate Professor.*

7. FARM ACCOUNTING. The principles of double-entry accounting applicable to the farm business; the interpretation and use of financial statements. Mr. Grinnell. (Formerly given as Agr. Econ. 13.) Elective for Juniors and Seniors in Agriculture. 1 lec.; 1 lab.; 3 cr.

11. ECONOMICS OF THE AGRICULTURAL INDUSTRY. Production and distribution problems of the agricultural industry, the nature of farming costs, agricultural prices, farm credit, land utilization, Federal and State action programs, and agricultural policy. Mr. Woodworth. Elective for Juniors and Seniors. 3 lec.; 3 cr.

14. FARM MANAGEMENT. Business aspects concerned with the organization and management of a farm as a business unit. Practical problems of reorganization will be carried out on at least two near-by farms. Mr. Grinnell. Elective for Seniors in Agriculture. 2 lec.; 1 lab.; 3 cr.

52. COOPERATIVE BUSINESS. Stress is placed on the organizational, legal, and financial problems of farmers' business corporations engaged in buying and selling. Selected problems of general agricultural marketing are integrated with the course content. Mr. Grinnell. (Formerly given as Agr. Econ. 15.) Elective for Juniors and Seniors, 3 lec.; 3 cr.

53. AGRICULTURAL PRICES. Quantity-price relationships, measures of shifts in demand and supply, determination of prices, price stabilization, market discrimination, and time elements in prices. Elective, subject to approval of instructor. 3 lec.; 3 cr.

54. AGRICULTURAL POLICY. Public policies involving conservation and agriculture will be studied and appraised. Production control, submarginal land purchase, soil conservation, forest regulation, the objectives and effect of various action programs. Mr. Woodworth. Elective, subject to approval of instructor. 3 lec.; 3 cr.

55, 56. SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS. Special assignments in readings and problems to satisfy students' needs. Mr. Woodworth, Mr. Grinnell. 1 to 3 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

AGRONOMY

AGRONOMY AND AGRICULTURAL ENGINEERING

FORD S. PRINCE, *Professor;* LEROY J. HIGGINS, *Assistant Professor;* GEORGE M. FOULKROD, *Assistant Professor;* PAUL T. BLOOD, *Assistant Professor;* LOUIS T. KARDOS, *Assistant Professor;* EDWARD W. FOSS, *Instructor.*

AGRONOMY

1. SOILS. The nature and properties of soils; fundamental physical, chemical, and biological processes and characteristics of productive soils. Mr. Higgins. (Formerly given as Agron. 2.) 2 lec.; 1 lab.; 3 cr.

4. FERTILIZERS AND SOIL FERTILITY. The manufacture and use of fertilizers, the production, composition, and care of farm manure and the relationship to crop response and soil fertility. Mr. Prince. 2 lec.; 1 lab.; 3 cr.

10. CROP PRODUCTION. Production of agronomic crops, distribution, choice, growth processes, cropping practices, seed beds, care, improvement, and breeding. Mr. Higgins. (Formerly given as Agron. 13.) 2 lec.; 1 lab.; 3 cr.

17. SEED TESTING. Official method of analysis of agricultural seeds for purity and germination, the identification of seeds, and the technique used in weighing, germinating, counting, and recording. Mrs. Sanborn. (Formerly given as Agron. 16.) Prereq.: Bot. 1 and permission of instructor. Hours arranged; 1 lab.; 1 cr.

18. POTATOES AND CEREAL CROPS. Potatoes and potato production in the Northeast; cereal grains such as corn, oats, and barley. Mr. Higgins. (Formerly given as Agron. 14.) Prereq.: Agron. 1, 4, and 10 or permission of instructor. 2 lec.; 1 lab.; 3 cr. (Alternate years; offered in 1945-1946.)

20. FORAGE AND PASTURE CROPS. Forage grasses and legumes, forage production, pasture crops and swards, and pasture management practices. Mr. Higgins. Prereq.: Agron. 1, 4, and 10 or permission of instructor. 2 lec.; 1 lab.; 3 cr. (Alternate years; not offered in 1945-1946.)

57. SOIL PHYSICS. The physical constitution and colloidal properties of soils; their measurement and relation to structure, water movement, aeration and temperature in soils. Mr. Kardos. Prereq.: Agron. 1, 4, and Phys. 4. 2 lec.; 1 lab.; 3 cr. (Alternate years; offered in 1945-1946.)

58. SOIL CLASSIFICATION AND MAPPING. The origin, morphology, classification, and mapping of soils. Relationships of the Great Soil

Groups of the world to crop production. Special emphasis is devoted to the soils of New Hampshire. Mr. Kardos. Prereq.: Agron. 1 and other courses at the discretion of the instructor. 2 lec.; 1 lab.; 3 cr. (Alternate years; offered in 1945-1946.)

59. Soil Chemistry. A study of the methods for evaluating nutrient levels in soils and of principles underlying the liberation, absorption, and fixation of nutrient elements in soils. Mr. Kardos. Prereq.: Agr. Chem. 1, 2, and Agron. 1, 4. 2 lec.; 1 lab.; 3 cr. (Alternate years; not offered in 1945-1946.)

60. Soil Conservation. The causes and effects of soil erosion. Cropping systems, fertilizer practices and structural devices used in erosion control. Mr. Kardos. Prereq.: Agron. 1, 4, 10. 1 lec.; 2 lab.; 3 cr. (Alternate years; not offered in 1945-1946.)

71, 72. Agronomy Seminar. Library and reference work on special phases of soil and crop problems. Practice in looking up literature and in preparation of reports and abstracts. Mr. Prince and staff. (Formerly given as Agron. 51-54.) Prereq.: Agron. 1, 4, 10. Elective for Seniors. 1 to 3 cr.

Agricultural Engineering

5. Basic Agricultural Engineering Applications. The solution of problems in farm mechanics, drainage. irrigation, soil conservation, water supply, and sanitation. Mr. Foulkrod. 2 lec.; 1 lab.; 3 cr.

12. Farm Power and Machinery. A study of the farm tractor and farm machinery with emphasis on applications to New England agriculture. Mr. Foulkrod. Elective for Juniors and Seniors. 1 lec.; 1 lab.; 2 cr.

13. Electric Farm Power. The application of electricity to modern farm practices. Mr. Foulkrod. Elective for Juniors and Seniors. 1 lec.; 1 lab.; 2 cr.

14. Agricultural Drawing. Practice in making and reading maps, shop sketches, and farm building plans. Mr. Foulkrod. Recommended for Sophomores in Agriculture. 1 lab.; 1 cr.

15. Farm Buildings. Lectures, drafting room practice, and field studies in design, construction, and maintenance of all types of farm structures. Mr. Foss. Prereq.: Agr. Eng. 14. 1 lec.; 1 lab.; 2 cr.

16. Farm Mechanics Shop. Offers a general knowledge of farm mechanics and develops the skills needed to teach farm shop work. Mr. Foss. 2 lab.; 2 cr.

ANIMAL HUSBANDRY

ANIMAL HUSBANDRY

*Loring V. Tirrell, *Professor;* Fred E. Allen, *Assistant Professor;* *Nicholas F. Colovos, *Assistant Professor;* Harry A. Keener, *Assistant Professor.*

2. Types and Market Classes of Livestock. Origin, history, development, characteristics, and adaptability of the different types of horses, cattle, sheep, and swine, with practice in judging. 2 lec.; 1 lab.; 3 cr.

11. Livestock Judging. The principles and practice of judging horses, beef cattle, sheep, and swine. It includes trips to some of the best New England breeding establishments and is required of candidates for judging team. 1 lab.; 1 cr.

13. Feeds and Feeding. The character, composition, and digestibility of feed stuffs and the principles and methods of feeding different kinds of farm animals. 3 lec.; 3 cr.

14. Advanced Livestock Judging. A continuation of Animal Husbandry 11. It serves as a basis for the selection of a livestock team for competition such as held at the Eastern States Exposition and the International at Chicago. Prereq.: Animal Husbandry 11. 1 lab.; 1 cr.

15. Systematic Anatomy. The general anatomy and physiology of domestic animals. Dr. Allen. 3 lec.; 3 cr.

16. Animal Diseases. The prevention, control, and treatment of the bacterial and parasitic diseases of domestic animals. Dr. Allen. 3 lec.; 3 cr.

18. Meat and Its Products; Livestock Markets. A study of meat, farm slaughter, curing and identification of cuts; livestocks, markets, stockyards, and transportation, with occasional trips to slaughter houses and packing plants. 1 lec.; 1 lab.; 2 cr.

19. Management of Horses and Beef Cattle. Selection, feeding, breeding management, and preparation for the show ring of horses and beef cattle with special reference to New England conditions. 2 lec.; 1 lab.; 3 cr.

20. Sheep and Swine Husbandry. Selection, breeding, feeding, management, and preparation for the show ring of sheep and swine, with special reference to New England conditions. 2 lec.; 1 lab.; 3 cr.

51. Animal Breeding. The principles and practices of breeding farm animals, including cross-breeding, in-breeding, selection, inheri-

*On Military leave

tance, breed analysis, reproductive efficiency, fertility and sterility. Mr. Keener. 3 lec.; 3 cr.

52. Animal Husbandry Seminar. Library and reference work and preparation of papers on various Animal Husbandry subjects of timely importance. Mr. Keener. 1 to 3 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

ARCHITECTURE

Eric T. Huddleston, *Professor.*

2. Elements of Architecture. Basic modern building materials and their use in the construction of walls, columns, floors, roofs, doors, windows, etc., illustrating their varied application and relation to contemporary architectural usage. Elective by permission. 2 rec.; 2 cr.

4. The Significance of Architecture. A comprehensive view of the architectural profession, its allied arts, and the building construction industry to the end that the student's interest in further study in these fields may be better directed. Non-technical, requiring no previous architectural experience. Mr. Huddleston. Elective by permission. 2 rec.; 2 cr.

5-6. History of European Architecture. The historical development of the successive periods, with an analysis of the environment, the style evolved, and the chief contributions of each period to architectural expression. Elective by permission. 2 rec.; 2 cr.

7. History of American Architecture. The historical development of the successive periods. The social conditions, type of architecture, work of the outstanding architects in the various geographical sections, and the chief contribution of each period to architectural expression. Elective by permission. 2 rec.; 2 cr.

9. Principles of Architectural Design. The study of individual needs and environmental factors which influence architectural design; principles governing the organization of space, structure, and aesthetics and their application to the design analysis of various types of buildings. Elective by permission. 2 rec.; 2 cr.

11, (11). Camouflage. A foundation course for those interested in camouflage training. Includes camouflage procedure, basic design principles, materials, technique, estimate, and methods of practices and maintenance. Elective. 2 rec.; 2 cr.

13-14. Domestic Architecture. A brief history of domestic architecture with special emphasis on early American housing as a basis for an appreciation of the New England colonial architecture. Modern housing problems, including the relation of the house plan to family requirements, individual site, garden, accessory buildings, and the community, with special consideration of economy in design and material, as it affects initial building and maintenance costs. Mr. Huddleston. 13, Elective by permission. 3 rec.; 3 cr. 14, Prereq.: Arch. 26. 2 rec.; 2 cr.

15. Professional Practice. The personal, ethical, business, and legal relations of the architect with clients, contractors, etc. Procedure in the conduct of an architect's office; i.e., contract forms, bookkeeping and accounting as they apply to professional work. Mr. Huddleston. Prereq.: Arch. 9. 2 rec.; 2 cr.

16. Specifications and Appraising. The fundamentals of specification writing and the preparation of an outline specification adapted to the requirements of the thesis problem designed by each student. Methods of estimating and appraising buildings. Mr. Huddleston. Prereq.: Arch. 20 or C.E. 15. 2 rec.; 2 cr.

17-18. Plumbing, Heating, and Electric Equipment. Principles of plumbing, heating, and electricity as applied to the various types of equipment used in residential and public buildings, and the design of simple piping and wiring systems. 2 lec.; 1 lab.; 3 cr.

19-20. Building Construction. Principles of structural design and an analysis of structural systems as applied to wood frame house, light and heavy timber, steel and reinforced concrete construction. The selection of structural systems in the solution of various types of construction problems; and the introduction of plumbing, heating, ventilating, and electrical equipment. Mr. Huddleston. Prereq.: Arch. 26. 3 lab.; 3 cr.

24. Shades, Shadows, and Perspective. Determination of conventional shades and shadows in architectural drawings; architectural application of descriptive geometry; theory of perspective and practical construction of perspective drawings. Rendering in wash of problems illustrating light, shade, and shadow. Elective by permission. 1 lec.; 2 lab.; 3 cr.

26. Architectural Design. The accepted methods of architectural drafting. Measured drawings showing the relation of material, construction, and design, drawn from field sketches and photographs of existing elements. Design studies of interior and exterior elements and motives. Arch. 2 must be taken either in parallel or as a prerequisite. Elective by permission. 2 lab.; 2 cr.

27-28. Architectural Design. The composition of architectural elements in interior and exterior design, with special emphasis on the correct use of the modern materials and structural forms of design. Prereq.: Arch. 24 and 26. Elective by permission. 3 lab.; 3 cr.

29-30. Architectural Design. Problems applying the materials, elements and principles of architecture to the design of contemporary buildings for residential, recreational, commercial, and municipal buildings of town and small city scale. Prereq.: Arch. 28. 6 lab.; 6 cr.

31-32. Architectural Design and Thesis. A practical course of building design to familiarize the student with the fundamental process of working drawing development in the architect's office. *The thesis will be an approved research project proposed by the student to provide the training and opportunity to exercise originality and inventiveness in the practical solution of a building type in his particular field of interest.* Mr. Huddleston. Prereq.: Arch. 30. 6 lab.; 6 cr.

33-34. Architectural Design. An approved program proposed by the student will be used for advanced study. Prereq.: Arch. 30. Elective by permission only. Credits to be arranged.

35, (35). Working Drawings. Complete working drawings are made of a building designed by the student and include dimensioned plans, elevations, sections, small and full-size details, and framing drawings. Mr. Huddleston. 2 lab.; 2 cr.

THE ARTS

George R. Thomas, *Associate Professor;* Irma G. Bowen, *Associate Professor;* *Paul L. Grigaut, *Associate Professor;* *Harland P. Nasvik, *Assistant Professor;* Verna E. Moulton, *Assistant Professor;* Edwin Scheier, *Instructor;* Wesley F. Brett, *Instructor;* Martha R. Sackett, *Instructor;* Doris F. Wilkins, *Instructor;* Marion Moody, *Assistant.*

Craft Cottage.—A small house devoted to the pursuit of a variety of handicrafts suitable for avocational or leisure-time hobbies. The classes are open to all students. Laboratories are scheduled at various times throughout the week in order to meet the differences in individual programs.

Student Workshop.—The Department of the Arts maintains an experimental Arts laboratory (Student Workshop) in Hewitt Hall for use of all students in the University. Whether enrolled in Art courses

*On leave of absence.

or not, students are invited to explore, under advice and assistance of Mr. Wesley F. Brett, their creative interests and abilities. This laboratory is equipped with a complete set of power and hand tools for woodworking, a printing press with type, an air brush, silk screen printing equipment, and facilities for block printing, model building, wood carving, and metalwork.

All laboratory courses listed in this section are limited in enrollment. Students should consult the instructor in charge before registering.

In those courses where students retain finished products, they pay for cost of materials used.

General Courses in the Arts

3, 4. Handicrafts. A course offering opportunity to become acquainted with elementary work in fifteen or more crafts such as leatherwork, chip carving, weaving, Viennese stenciling, embroidery, and others. Miss Bowen. Elective by permission only. 1-3 lab.; 1-3 cr.

5, 6. Handicrafts. A continuation of Arts 3 or 4 covering other crafts, or more advanced work. Miss Bowen. Elective by permission only. Prereq.: Arts 3 or 4. 1-3 lab.; 1-3 cr.

7, 8. Handicrafts. A continuation of Arts 5 or 6. Miss Bowen. Elective by permission only. Prereq.: Arts 5 or 6. 1-3 lab.; 1-3 cr.

11, (11). Modeling. Elementary work in modeling in relief and the round figure. An introduction to ceramic sculpture and to the processes of casting in plaster and papier-mâché. Mr. Scheier. 2 lab.; 2 cr.

13-14. Carving. Study of the possibilities and limitations of various materials suitable for carving. Design and carving in relief and in the round. Care and use of carving tools. Mr. Brett. 1 lab.; 1 cr.

15, 16. Ceramics (Pottery). Design and construction. Studio practice in throwing, casting, modeling, decorating, glazing, and firing of pottery, tiles, and figures. Modeling in ceramic clay and plasticine. Study of casting problems. Mr. Scheier. 2-3 lab.; 2-3 cr.

17, 18. Ceramics (Pottery). A further study of design and construction, with special emphasis on decoration and the preparation and application of glazes. Mr. Scheier. Prereq.: Arts 15, 16. 2-3 lab.; 2-3 cr.

19, 20. Puppetry. Design and construction of hand puppets, marionettes, and shadow puppets. Writing and production of puppet plays and pantomimes. Mr. Scheier. 2 lab.; 2 cr.

23. Elementary Drawing and Design. Studio exercises in graphical representations designed to stimulate and develop the student's expression of creative thought. Original ideas will be guided through the process of development by criticism and suggestions only. Mr. Thomas. 2-3 lab.; 2-3 cr.

24. Elementary Drawing and Design. Elementary drawing in various media from casts, still-life and nature, aiming at the stimulation and development of creative thought through the study of fundamental forms. Lettering, block printing, and color. Mr. Thomas. 2-3 lab.; 2-3 cr.

25, 26. Advanced Drawing and Design. Advanced studio exercises in various media from casts and from life. Composition, proportion, perspective, and the expression of mass by means of line and simple light and shade. Outdoor sketching. Mr. Thomas. Permission of instructor. 2-3 lab.; 2-3 cr.

27, 28. Water Color Painting. Handling of wash; studies from documents, photographs, and still-life; supplemented with lectures presenting the theories of color, scientific and aesthetic, and their application. Outdoor sketching. Mr. Thomas. 1 lec.; 2 lab.; 3 cr.

29, 30. Advanced Painting. A general advanced study of special types, depending upon the student's previous training. A variety of studio work under individual supervision and criticism. Mr. Thomas. Elective by permission only. Credits to be arranged.

31, 32. Introduction to the Arts. A broad historical survey of man's creative efforts in their relation to contemporary cultural and social movements, presented as a background for interpreting the place of the arts in individual and community life of today. Illustrated lectures with assigned readings. Mr. Thomas. For Sophomores, Juniors, and Seniors. 3 lec.; 3 cr.

33. Survey of European Art. The development of art, especially painting, in Europe from the Renaissance to the present, with particular emphasis on French art of the 19th and 20th centuries. Illustrated lectures, assigned readings, and reports. Mr. Grigaut. For Sophomores, Juniors, and Seniors. 3 lec.; 3 cr. (Not offered in 1945-1946.)

35, (35). Stagecraft. Technical phases of play production, including stage design, construction and painting of scenery, stage lighting, makeup, costuming, mechanical effects, and handling of properties. Offered in conjunction with Play Production (English 5 (5)). Mr. Brett. ½-1 cr.

39, (39). Elementary Photography. The theory and technique of photography, covering camera operation, printing, enlarging, and presentation. Special lectures on Optics and Photographic Chemistry by Physics and Chemistry Department staff members. Mrs. Sackett. Open to Sophomores, Juniors, and Seniors with permission of the instructor. 1 lec.; 2 lab.; 3 cr. Laboratory fee: $5.00.

43-44. Historic Costume and Design. Costume changes from the primitive to the present, and something of the historical events that influenced such changes. Adaptation of period costume to modern use. Miss Moulton. First semester: 3 lec. or rec.; 3 cr. Second semester: 2-3 lab.; 2-3 cr.

52. Advanced Photography. Each student will be assigned a special problem, in which he will outline a project and prepare and present a series of not less than 10 photographs to illustrate a single theme. Mrs. Sackett. Prereq.: Completion of Photography 1 with a grade of B or better, and the permission of the instructor. 1 rec.; 2 lab.; 3 cr. Laboratory fee: $2.50.

Art-Education (art-ed) 91. Problems of Teaching Art in Elementary Schools. 2 rec.; 1 lab.; 3 cr. (Not offered in 1945-1946.)

Art-Education (art-ed) 92. Problems of Teaching Art in Secondary Schools. 2 rec.; 1 lab.; 3 cr. (Not offered in 1945-1946.)

Education-Art (ed-art) 94. Supervised Teaching in Secondary School Art. Prereq.: Art-Ed 92. One semester of Supervised Teaching. 6-14 cr.

Selection from the following courses offered by several departments within the University may, with consent of the Head of the Department, be counted toward a major program in the Arts:

Architectural Composition. See Architecture 9.

Architectural Design. See Architecture 26.

Domestic Architecture. See Architecture 14.

Elementary Landscape Gardening. See Horticulture 28.

Elements of Architecture. See Architecture 2.

Floral Arrangement. See Horticulture 38.

Forge Shop. See Mechanical Engineering S13 (S13).

Home Building and Furnishing. See Architecture 13 and Home Economics 32.

History of European Architecture. See Architecture 5-6.

History of American Architecture. See Architecture 7.

Shades, Shadows, and Perspective. See Architecture 24.

The Significance of Architecture. See Architecture 4.

Wood Work. See Mechanical Engineering S3 (S3).

Wood Shop. See Mechanical Engineering S6.

For courses in Music, Dramatic Art, and Dancing, see Departments of Music, English, Physical Education for Women.

A special University committee on Fine Arts promotes on the Campus a series of exhibitions and lectures treating the arts. Visits to near-by museums and points of interest are arranged from time to time, and published lists of these visits are available. The following are a few of the art centers within a convenient radius of Durham: Addison Gallery of American Art, Currier Gallery of Art, Museum of Fine Arts of Bowdoin College, and several excellent museums and galleries in Boston, including the Boston Museum of Fine Arts, the Gardner Museum, and the Fogg Museum at Harvard University.

BACTERIOLOGY

(See page 183.)

BIOLOGY

C. Floyd Jackson, *Professor;* Lawrence W. Slanetz, *Associate Professor;* Albion R. Hodgdon, *Associate Professor;* George M. Moore, *Associate Professor;* Edythe T. Richardson, *Assistant Professor;* Marian E. Mills, *Assistant Professor;* Stuart Dunn, *Assistant Professor;* Charle G. Dobrovolny, *Assistant Professor;* M. C. Richards, *Assistant Professor;* Paul E. Schaefer, *Assistant Professor;* Eleanor L. Sheehan, *Instructor;* *H. Gilbert Crecelius, *Instructor;* Erma L. Andrews, *Instructor;* Arthur J. Shanahan, *Instructor.*

Biol. 1-2. Man and the Living World. This is a basic course in Biology, designed to give the student fundamental facts about himself and a broad understanding of his relation to the living world, both plant and animal, of which he is a part. 3 lec. or rec.; 1 lab.; 4 cr. *This course cannot be used to satisfy major requirements.*

Biology-Education (bi-ed) 91. Problems in the Teaching of High School Biology. Objectives and methods of teaching. The selection and organization of materials; visual aids; setting up aquaria and other projects will be stressed. Mr. Schaefer. Prereq.: See page 136. 2 rec.; 1 lab. or field trip; 3 cr.

*On leave of absence.

EDUCATION-BIOLOGY (ED-BI) 93, 94. SUPERVISED TEACHING IN HIGH SCHOOL BIOLOGY. See page 202.

95, 96. SEMINAR. Reports on research and literature in the Biological Sciences by students and Faculty. Recommended for Juniors and Seniors who have completed 20 or more hours in Biological Science. 1 lec.; 1 cr.

BACTERIOLOGY

MR. SLANETZ, *In Charge*

1. GENERAL BACTERIOLOGY. Principles of Bacteriology: morphology, physiology and classification of bacteria and other microorganisms, and their relationships to agriculture, industry, sanitation, and infectious diseases. Mr. Slanetz, Mr. Shanahan. Prereq.: Chem. 1-2 or equivalent. 2 lec.; 1 rec.; 2 lab.; 5 cr.

2. FOOD AND SANITARY BACTERIOLOGY. Relation of microorganisms to food production; food preservation; food infections and intoxications; standard laboratory methods for the bacteriological examination of foods. Bacteriology and sanitation of water, sewage, air, and eating utensils. Disinfection and disinfectants. Prereq.: Bact. 1. 2 lec.; 2 lab.; 4 cr.

3. ELEMENTS OF MICROBIOLOGY. Lectures and recitations or laboratory demonstrations on the nature and characteristics of bacteria, viruses, yeast and molds; the relationships of these microorganisms to agriculture, industry, sanitation, and infectious diseases. For students who, as part of their cultural training, desire some knowledge of microbes and their role in everyday life. Mr. Slanetz. 3 lec. or rec.; 3 cr. (Not open to Freshmen.)

4. PUBLIC HEALTH AND SANITATION. A consideration of the causal agents, prevalence, transmission, and control of the communicable diseases. Sanitation of water, sewage, food, and air. Community hygiene and public health administration. Mr. Slanetz. Prereq.: Biol. 1, 2, or consent of instructor. 3 lec. or demonstrations; 3 cr.

6. AGRICULTURAL AND SOIL BACTERIOLOGY. Study of important soil bacteria and their role in soil fertility; characteristics of bacteria and viruses causing plant disease. Mr. Crecelius. Prereq.: Bact. 1. 3 lec.; 1 lab.; 4 cr.

8. PATHOGENIC BACTERIOLOGY. A study of the morphological, cultural, biochemical, serological, and pathogenic characteristics of microorganisms causing human and animal diseases. Mr. Slanetz and Mr. Shanahan. Prereq.: Bact. 1. 2 lec.; 2 lab.; 4 cr.

53. Immunology and Serology. The theories of infection and immunity; production of vaccines, toxins, and antiserums; serological techniques for disease diagnosis and identification of bacteria including agglutination, precipitin, and complement fixation tests. Mr. Slanetz, Mr. Shanahan. Prereq.: Bact. 52. 2 lec.; 2 lab.; 4 cr.

55, 56. Problems in Bacteriology. Special problems, depending upon the training and desire of the student. Elective only upon consultation. Mr. Slanetz. Credits to be arranged.

57, 58. Bacteriology Seminar. Reports and discussions on current literature and recent developments in bacteriology. Mr. Slanetz. Prereq.: Bact. 2 or 52 and consent of instructor. One 2-hour period; 1 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

Botany

Mr. Hodgdon, *In Charge*

1. General Botany. The principal plant groups with emphasis on structure, function, and economic importance with stress on agricultural applications. Mr. Hodgdon. Required of Freshmen in Agriculture. 2 lec.; 2 lab.; 4 cr.

2. General Botany. A general survey of the entire plant kingdom with emphasis on development, reproduction, and evolutionary trends. Mr. Hodgdon. Prereq.: Bot. 1 or Bot. 3 2 lec.; 2 lab.; 4 cr.

3. The Plant World. The structure and function of plant parts. The application of basic biological principles to plant life. Mr. Hodgdon. Prereq.: Biol. 1-2. 3 lec.; 1 lab.; 4 cr.

5. Plant Anatomy and Cytology. The anatomy of seed plants as revealed by free-hand and sliding microtome sections and simple staining. A brief review of cell structure as shown by cytological methods. Mr. Dunn. Prereq.: Bot. 1 or Bot. 3. 2 lab.; 2 cr. (Formerly Botany 3.)

6. Systematic Botany. The identification and classification of our native trees, shrubs, and wild flowers. Mr. Hodgdon. Prereq.: Biol. 1-2 or Bot. 1. 1 lec.; 2 lab.; 3 cr.

51. Plant Pathology. The nature of disease in plants, the etiology, symptomatology, and classification of plant diseases. Mr. Richards. Prereq.: Bot. 1 or Bot. 3. 1 lec.; 2 lab.; 3 cr.

52. Principles of Plant Disease Control. Exclusion, eradication, protection, and immunization, and the specific, practical methods used

to control plant diseases. Mr. Richards. Prereq.: Bot. 1 or Bot. 3. 1 lec.; 2 lab.; 3 cr.

55. Advanced Systematic Botany. The principles and laws of plant classification and nomenclature; study of plant families, field and herbarium work. Mr. Hodgdon. Prereq.: Bot. 6. Hours to be arranged. 4 cr.

56. Plant Physiology. Structure and properties of the cell; absorption and movement of water; metabolism; growth and irritability. Mr. Dunn. Prereq.: Bot. 1 or Bot. 3, and one year of Chemistry. 2 lec.; 2 lab.; 4 cr.

57, 58. Problems in (a) Systematic Botany (b) Plant Physiology, and (c) Plant Pathology. Elective only upon consultation with Head of Section. Mr. Hodgdon, Mr. Dunn, and Mr. Richards. Hours to be arranged. 2 to 6 credits. (Formerly Botany 53, 54.)

Zoology

Mr. Jackson, *In Charge*

7-8. General Zoology and Comparative Anatomy. Basic course for Zoology majors and pre-medical students, dealing with anatomy of invertebrates and vertebrates. Fundamental principles of Zoology. Selected invertebrate and vertebrate types dissected in the laboratory. Mr. Moore. Prereq.: Biol. 1-2. 2 lec. or rec.; 2 lab.; 4 cr.

17, 18. Human Anatomy and Physiology. The structure and function of the human body, with a detailed study of the different systems. Collateral reading, written reports, and conferences. Mrs. Richardson. Prereq.: Biol. 1-2. 3 lec.; 3 cr.; optional laboratory, 4 cr.

Advanced Courses

51. Parasitology. An introductory course concerned with some of the more important parasites causing diseases of man and animals. Living materials will be used as far as possible. Mr. Dobrovolny. Prereq.: Biol. 1-2 and permission of the instructor. 2 lec.; 2 lab.; 4 cr.

52. Pathology. The principles of general pathology of vertebrates including man. The course is designed for students in the fields of Laboratory Technique, Nursing, and Applied Biology. Pre-medical students are strongly advised not to elect this course. Mr. Dobrovolny. Prereq.: Zool. 53, Bact. 1, and permission of the instructor. 2 lec.; 2 lab.; 4 cr.

53. Histology. This course gives the student a familiarity with the microscopical anatomy of the principal tissues and organs of ver-

tebrates. Mr. Dobrovolny. Prereq.: Biol. 1-2 and one year of Biol., and permission of the instructor. 2 lec.; 2 lab.; 4 cr.

54. Embryology. A study of the fundamental principles of development. The developmental process from the egg to the formation of the body and the establishment of the principal organs and systems. Mr. Dobrovolny. Prereq.: Biol. 1-2 and one year of Zool. 2 lec.; 2 lab.; 4 cr.

55. Invertebrate Zoology. A survey of the major invertebrate groups, exclusive of insects, with emphasis on free living forms. Evolution of various phyla and their ecological relationships. Miss Sheehan. Prereq.: Zool. 7-8 and permission of the instructor. 2 lec.; 2 lab.; 4 cr.

57, 58. Laboratory Technique. Methods in histologic technique and examination of blood, urinary sediments, parasites, and zoological preparations. Mr. Dobrovolny. Prereq.: Zool. 53 or equivalent and permission of the instructor. 1 lec.; 2 lab.; 3 cr.

59-60. Advanced Physiology. Human physiology with special emphasis on nutrition, circulation, respiration, excretion, and secretion. Lectures, assigned topics, and laboratory experiments. Mrs. Richardson. Prereq.: Biol. 1-2 and one year of Zool. 3 lec. or rec.; 3 cr. (3 lec. or rec.; 1 lab.; 4 cr., by permission of the instructor.)

61. Heredity and Variation. A study of the physical basis of inheritance, expression, and interation of the hereditary units, linkage, and variation. Mrs. Richardson. Prereq.: Biol. 1-2 and one year of Zool. 3 lec. or rec.; 1 lab.; 3 or 4 cr.

64. Neurology. Practical study of the morphology, physiology, and histology of the human nervous system. Mrs. Richardson. Prereq.: Biol. 1-2 and one year of Zool. 3 lec. or rec.; 1 lab.; 4 cr.

71, 72. Ecology of the Vertebrates. The habits, habitat, life history, and economic importance of vertebrate animals with emphasis on their ecological relationships. Field methods and technique will be considered. Mr. Jackson. Prereq.: Permission of the instructor. 3 lec. or rec.; 1 lab.; 4 cr.

75, 76. Marine Biology and Oceanography. Marine life with special emphasis on the economic species of fish and shellfish with problems concerning their utilization and conservation. Mr. Jackson and Miss Sheehan. Prereq.: Biol. 1-2 and Zool. 7-8. 2 lec. or rec.; 2 lab.; 4 cr. (Note: Students are advised to elect this course in the Summer Session when Zool. 75 will be devoted to problems in Great Bay, and Zool. 76 may be given in the Intersession at the Isles of Shoals. Special laboratory fee, $10.00.)

95. Limnology. Factors affecting biological productivity of freshwater lakes and streams. Adapted primarily for students interested in fish and game management, wild life conservation, and in teaching of Biology. Mr. Moore. Prereq.: permission of the instructor. 2 lec.; 2 lab.; 4 cr.

96. Problems of Conservation Research. Problems in all phases of conservation work and specifically in Zoology, Ecology, and Limnology. Nature of problems to be determined by background and interests of the individual student. Mr. Moore. Prereq.: permission of the instructor. 1 conference; 1-3 lab.; 2-4 cr.

97, 98. Special Problems. Advanced students may elect a special problem provided they present a detailed outline of the subject and can furnish adequate proof of their ability to carry it out with equipment available. Head of the Department and members of the staff. Prereq.: Permission of the instructor. Graduate or undergraduate credit. 1-4 cr.

SERVICE COURSES

48. General Zoology. The principles of animal life, with special emphasis on human anatomy and physiology; the general principles of physiology, embryology, and genetics as applied to various forms of animals. Required of Sophomores in Agriculture. Open only to students in Agriculture. 3 lec.; 3 cr.

49. Genetics. The physical basis of inheritance; laws governing Mendelian inheritance, and their application to plant and animal breeding. Mrs. Richardson. For Agricultural students. 2 lec. or rec.; 2 cr.

For courses primarily for Graduate students, see the Catalogue of the Graduate school.

Botany. See page 184.

Business. See page 197.

Dentistry. See Pre-Dental, page 119.

Design. See The Arts, page 178.

Dramatics. See Arts 35 and English 5.

Drawing. See The Arts, page 178.

CHEMISTRY AND CHEMICAL ENGINEERING

Harold A. Iddles, *Professor;* Oswald T. Zimmerman, *Professor;* Melvin M. Smith, *Associate Professor;* James A. Funkhouser, *Associate Professor;* Albert F. Daggett, *Associate Professor;* Edward R. Atkinson, *Associate Professor;* John L. Torgesen, *Assistant Professor;* Norman Bauer, *Assistant Professor;* Heman C. Fogg, *Demonstrator.*

BREAKAGE. A breakage deposit is required in certain laboratory courses, from which the actual breakage is deducted. The deposit receipt must be presented to the instructor at the first class meeting.

1-2. GENERAL CHEMISTRY. A broad course in Elementary Chemistry with many lecture demonstrations and some laboratory practice. Topics of interest to the professional student and of general interest are presented. For Liberal Arts and Agriculture students. Messrs. Smith, Atkinson, Torgesen, and assistants. 2 lec.; 1 rec.; 1 lab.; 4 cr. Deposit: One dollar for the year.

3-4. GENERAL CHEMISTRY. The fundamental laws and conceptions of Chemistry, including a study of the non-metals and metals and their compounds. The theoretical principles are illustrated by many lecture demonstrations, and the applications of Chemistry in the professions are explained. Messrs. Iddles, Smith, Funkhouser, and assistants. For students who plan to take further courses in the Department of Chemistry. 2 lec.; 1 rec.; 1 lab.; 4 cr. Deposit: One dollar for the year.

6. INORGANIC CHEMISTRY. A continuation of Chemistry 3 covering the fundamental laws and conceptions of Chemistry involved in a study of the non-metals and metals and their compounds. Mr. Iddles, Mr. Smith, and assistants. Prereq.: Chem. 3, Mathematics 5, and permission of instructor. 2 lec.; 1 rec.; 3 lab.; 6 cr. Deposit: continued from Chem. 3.

11-12. SURVEY OF CHEMISTRY. Lectures and demonstrations on general Chemistry, designed for the pursuit of Chemistry as an element of general culture rather than as professional training, and for a knowledge of the spirit of a branch of science on which much of our present-day civilization is based. Textbook: Findlay, The Spirit of Chemistry. Mr. Iddles. Elective for Sophomore, Junior, and Senior students. 3 lec.; 3 cr.

21. SEMI-MICRO QUALITATIVE ANALYSIS. The fundamental theories of solutions and colloids as applied to the reactions of qualitative analysis. Problem work is required. The laboratory work uses the semi-micro technique and provides ample experience in the analysis of simple and complex mixtures. For Chemistry majors. Mr. Bauer and assistant. Prereq.: Chem. 4 or 6. 2 lec.; 2 lab.; 4 cr. Deposit: Five dollars for the semester.

22. QUANTITATIVE ANALYSIS. The theory and laboratory technique of the more common determinations of gravimetric and volumetric analysis. Emphasis on the solution of problems. A comprehensive study of the more common analytical methods. Mr. Daggett and as-

sistants. Prereq.: Chem. 21. 2 lec.; 3 lab.; 5 cr. Deposit: Five dollars for the semester.

25, 26. Introductory Quantitative and Qualitative Analysis. First semester: The theory, problems, and technique involved in some of the common procedures in both gravimetric and volumetric quantitative methods. Second semester: The theory and problems of qualitative analysis. The laboratory work is conducted on a semi-micro scale and presents the special methods of technique involved. For Pre-medical and Pre-dental students, as a preparation for various sciences, and as a preparation for secondary school teaching. Messrs. Daggett, Bauer, and assistants. Prereq.: Chem. 4. 1 lec.; 2 lab.; 3 cr. Deposit: Ten dollars for the year.

31. Stoichiometry and Technical Quantitative Analysis. The laboratory portion provides sufficient experience to develop the skill and special technique necessary for the analysis of alloys, gaseous, liquid and solid fuels, gas mixtures, oils, and lubricants. The lectures interpret the results of technical analyses and their application to the calculation of heat and material balances in industrial processes. Mr. Daggett. Prereq.: Chem. 22. 3 lec.; 2 lab.; 5 cr. Deposit: Five dollars for the semester.

45, (45). Organic Chemistry. An introductory but comprehensive study of the chemistry of carbon compounds with emphasis on the particular phases of the subject needed by students preparing to be technicians, nurses, majors in Biological Sciences, and others, where a brief course is desired. Mr. Atkinson. Prereq.: Chem. 3-4. (Elective for medical technicians, nurses, majors in Biology, Pre-dental students.) 3 lec.; 2 lab.; 5 cr. Deposit: Five dollars.

47-48. Organic Chemistry. Lectures on the principal classes of organic compounds, aliphatic and aromatic, with emphasis on class reactions and structural theory. Laboratory exercises in the preparation and purification of selected organic compounds; also the use of group reactions for the identification of organic substances in a systematic scheme of qualitative organic analysis. Mr. Iddles. Prereq.: Chem. 22. 3 lec.; 2 lab.; 5 cr. Deposit: Ten dollars for the year.

51. Organic Chemistry. An intensive review of the methods of preparation and reactions of the principal classes of organic compounds. Emphasis is on the working of assigned problems. Mr. Atkinson. Prereq.: Chem. 48 or 54. 3 lec.; 3 cr.

53-54. Organic Chemistry. Lectures on the chief divisions of Organic Chemistry, aliphatic and aromatic, with the needs of the pre-professional student in mind. A more detailed consideration of

carbohydrates and proteins follows. The laboratory technique of organic chemical methods as illustrated in the preparation and purification of typical organic compounds. Mr. Funkhouser. Prereq.: Chem. 3-4, and 26 when possible. Chem. 53 alone does not meet the Pre-medical or Pre-dental requirements; a grade of "Incomplete" will appear on the student's record following the completion of Chem. 53, and the grade in the course will be filed upon completion of Chem. 54. 3 lec.; 2 lab.; 5 cr. Deposit: Ten dollars for the year.

55, 56. Theoretical Problems of Modern Organic Chemistry. The electron theory of Organic Chemistry is used to correlate the chemical behavior of unsaturated compounds, free radicals, and other classes. Mr. Atkinson. Prereq.: Chem. 48 or 54. 3 lec.; 3 cr.

62. Advanced Methods of Quantitative Analysis. The theory and technique of special and recently developed methods of analysis such as colorimetry, turbidimetry, potentiometry, and spectrography. Sufficient experience is obtained to allow the development of considerable skill in even the more complex methods. Mr. Daggett. Prereq.: Chem. 22. 2 lec.; 2 lab.; 4 cr. Deposit: Five dollars for the semester.

71-72. Unit Processes. The important inorganic and organic industrial chemical processes from the point of view of the basic chemical reactions and physical operations involved. Mr. Zimmerman. Prereq.: Chem. 22. 2 lec.; 2 cr.

74-75. Unit Operations. The theory and practice of the fundamental chemical engineering unit operations, including flow of fluids, flow of heat, evaporation, distillation, drying, filtration, gas absorption, extraction, humidification and air conditioning, crystallization, crushing and grinding, and size separation. Mr. Zimmerman. Prereq.: Chem. 71, 83. 3 lec.; 3 cr.

76. Chemical Engineering Economics. The economic factors involved in industrial chemical processes and the application of economic balances to the design and selection of chemical engineering equipment. Mr. Zimmerman. Prereq.: Chem. 75, 77. 3 lec.; 3 cr.

77. Unit Operations Laboratory. Experiments based upon the unit operations are performed on typical chemical engineering equipment. Mr. Zimmerman. Prereq.: Chem. 74, 84. 3 lab.; 3 cr. Deposit: Five dollars for the semester.

78. Chemical Plant Design. The design and layout of chemical plants and equipment. The assigned problems are of a practical nature, such as the manufacture of some chemical product, and their solution will include the design or selection of all equipment and drawings of equipment, plant, and layout. Mr. Zimmerman. Prereq.: Chem. 75, 77. 3 lab.; 3 cr.

79. Chemical Engineering Thermodynamics. A study of the fundamental laws of energy and their application to chemical engineering problems. Mr. Zimmerman. Prereq.: Chem. 84 and Chem. 74. 2 lec.; 1 rec.; 3 cr.

80. Chemical Engineering Project. Each student selects a research problem which he carries out independently under Faculty supervision. Intensive study in both the library and the laboratory and a satisfactory thesis at the completion of the work are required. Mr. Zimmerman. Prereq.: Chem. 75, 77. 4 lab.; 5 cr. Deposit: Five dollars for the semester.

82. Pre-Medical and Pre-Dental Physical Chemistry. A brief review and survey of the more important fundamental topics of Physical Chemistry; thereafter, those topics of Physical and Theoretical Chemistry which have application in the medical, biological, and agricultural sciences. Mr. Torgesen. Prereq.: Chem. 2, Phys. 2, 6, or 8, Math. 6 or equivalent. 3 lec.; 3 cr.

83-84. Elementary Physical Chemistry. The properties of gases, liquids, and solids; thermochemistry and thermodynamics; solutions, chemical equilibria, reaction rates, conductance and electromotive force. Mr. Torgesen. Prereq.: Chem. 22, Math. 18, Phys. 8. 3 lec.; 2 lab.; 5 cr. Deposit: Ten dollars for the year.

85-86. Advanced Physical Chemistry. A complete review of elementary Physical Chemistry followed by a study of the structure and properties of matter. In the latter part of the course the subject matter will include radioactivity, atomic structure, crystal structure, and related topics. Mr. Bauer. Prereq.: Chem. 84 or equivalent. 3 lec.; 3 cr.

87-88. Chemical Literature and Seminar. Use of the Chemical Library; student reports on topics of interest. Mr. Atkinson. Prereq.: Chem. 62 and Chem. 48. 1 lec.; 1 cr.

89-90. Thesis. A thesis covering the related background and experimental observations of the year's investigation in some selected subject is required. Members of the staff. For Seniors in Chem. who have completed Chem. 48, 62, and 84. 4 lab.; 4 cr. Deposit: Ten dollars for the year.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

CIVIL ENGINEERING

Edmond W. Bowler, *Professor;* Russell R. Skelton, *Associate Professor;* *Charles O. Dawson, *Assistant Professor.*

*On leave of absence for Military service.

2. Surveying. The theory and use of surveying instruments and methods, including measurement of angles, direction and distance, differential leveling, land surveying, note keeping, and calculations and plotting relating to traverses. Prereq.: Math. 5, or Math. 2 carried in parallel. 1 rec.; 1 lab.; 2 cr.

3-4. Surveying. Theory and use of surveying instruments and methods on plane, precise, and topographic surveys, including: the use and adjustment of tapes, transits, levels, and plane tables, topographic mapping, solution of miscellaneous problems in topographic surveying, highway and railway curves, observations and reduction of observations on the sun and Polaris for latitude, time, and direction, profile leveling, city surveying, base line measurements, triangulation, and mapping programs in the United States. Some time is spent in the practice of the execution of topographic symbols and lettering. A topographic survey of a small area is completed in the field by the transit and stadia method and a map of the same area is plotted in the drafting room. A topographic map of a small area is also made by the plane table method. Prereq.: C.E. 2. C.E. 3: 3 rec.; 3 lab.; 6 cr. C.E. 4: 1 rec.; 2 lab.; 3 cr.

6. Route Surveying. Theory and practice relating to preliminary and final location surveys for highways, railways, and pipe lines. Theory and problems in earthwork, the mass diagram, grade lines, vertical curves, cross sectioning and slope stakes. Mr. Skelton. Prereq.: C.E. 4 either in parallel or as a prerequisite. 1 rec.; 2 lab.; 3 cr.

7-8. Surveying. The theory and use of surveying instruments and methods on plane and topographic surveys, including the measurement of angles, measurement of direction and distance, differential leveling, calculations relating to traverses, observations and reduction of observations on the sun and Polaris for direction. Prereq.: Math. 2 or 6. 2 lab.; 2 cr.

9, (9). Surveying. The theory and use of tape, level, and transit in making plane surveys, computations and drafting exercises necessary to plot field notes, surveys for record, and the economics and use of surveys for all purposes. Prereq.: Math. 6. 1 rec.; 1 lab.; 2 cr.

15. Engineering Materials. Methods of manufacture, physical properties and the application of the various materials used in engineering works, including timber, steel, stone, brick, cement, concrete, and bituminous materials. Laboratory experiments and reports on the testing of cements and concrete specimens. Mr. Skelton. Prereq.: Geol. 7 and M.E. 9 either in parallel or as a prerequisite. 2 rec.; 1 lab.; 3 cr.

23. Hydraulics. Fundamental principles of hydrostatics and hydrokinetics: fluid pressures, hydraulic gauges and meters, flow through pipes, tubes, orifices and nozzles, flow over weirs, flow in open channels, and the dynamic action of jets and streams. Mr. Bowler. Prereq.: M.E. 9. 3 rec.; 3 cr.

24. Hydraulics. Fundamental principles of hydrostatics and hydrokinetics: fluid pressure and fluid flow, hydraulic gauges and meters, fluid flow through pipes, tubes, orifices and nozzles, flow over weirs, flow in open channels, the dynamic action of jets and streams, and the theory of tangential and reaction turbines. Mr. Bowler. Prereq.: M.E. 7. 3 rec.; 3 cr.

27-28. Theory of Structures. The graphical and analytical methods of determining reactions, moments and shears in beams, girders and trusses under fixed and moving loads, and the stresses in various structures including simple, subdivided and multiple trusses, portals, viaducts, cantilevers, and three-hinged arches. The computation of deflections and the application of the method of least work to statically indeterminate structures. Mr. Bowler. Prereq.: Math. 8, and M.E. 9 and 10 as prerequisites or in parallel. 3 rec.; 1 lab.; 4 cr.

38. Thesis. The student selects a subject of engineering, scientific, or commercial interest for investigation or design and presents his results as a thesis in which equal emphasis is placed upon composition and accuracy of subject matter. Mr. Bowler, Mr. Skelton. Prereq.: English 41. 1 conference each week; 2 cr. Students passing this course will receive a grade of Cr.

41, 42, 43, 44. Student Chapter of the American Society of Civil Engineers. Junior and Senior students in Civil Engineering are required to join the student chapter of the American Society of Civil Engineers. In addition to its ordinary life under the guidance of student officers, the chapter meets once a week under the direction of an instructor, when prepared addresses by the student members are presented. Mr. Bowler. No credit. Students passing this course will receive a grade of Cr.

52. Hydraulics. Principles of hydrostatics and hydrokinetics, including the laws governing static pressures, the flow of water through orifices, tubes, nozzles, weirs, pipe lines, and open channels, the dynamic action of jets and streams and fluid flow in pipes. Laboratory exercises in hydraulic machinery and in stream gaging. Mr. Bowler. Prereq.: Math. 8. 3 rec.; 1 lab.; 4 cr.

61. Highway Engineering and Transportation. The economics of location and design of highways and city streets; methods of con-

struction, maintenance, and specifications governing the various types of surfaces; administration and financing of highway systems; special emphasis on highway transportation. Field location and the complete design of a section of highway are included. Mr. Skelton. Prereq.: C.E. 4, 6, and 15. 2 rec.; 2 lab.; 4 cr.

62. Soil Mechanics and Foundations. The principles underlying the behavior of various soils when subjected to structural loads. Problems and methods encountered in foundation design and construction, building codes and legal aspects of foundation construction, also test borings and other underground exploration methods. Mr. Skelton. Prereq.: C.E. 65. 2 lec.; 1 lab.; 3 cr.

63-64. Hydraulic and Sanitary Engineering. Precipitation, water losses, run-off, drainage areas, stream flow, water power estimates, hydraulic turbines, dams and waterways; the sources, quantity, quality, and sanitary aspects of public water supplies; the methods of purification and distributing systems; the theory and problems of sewerage, the principles governing the disposal of sewage and the various methods of sewage treatment. Mr. Bowler. Prereq.: C.E. 52. 3 rec.; 1 lab.; 4 cr.

65. Structural Design. Theory and problems relating to the design of steel and timber structures. A steel girder and steel roof truss are completely designed and working drawings prepared. Individual parts of steel bridge trusses and buildings are studied and designed. Emphasis on economy of design, accuracy of results, clarity of vision and analytical thought. Mr. Skelton. Prereq.: C.E. 28. 2 rec.; 2 lab.; 4 cr.

66. Reinforced Concrete Structures. Theory and design of reinforced concrete structures, such as beams, slabs, columns, footings, retaining walls, and small bridges. Mr. Skelton. Prereq.: C.E. 65. 2 rec.; 2 lab.; 4 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

DAIRY HUSBANDRY

Kenneth S. Morrow, *Professor;* Herbert C. Moore, *Associate Professor;* Harry A. Keener, *Assistant Professor.*

6. Fundamentals of Dairying. A general survey of the dairy industry; the composition and properties of milk and other dairy products, dairy manufacturing processes, market milk, the selection and judging of dairy cattle. Mr. Morrow, Mr. Moore, Mr. Keener. 2 lec.; 1 lab.; 3 cr.

DAIRY HUSBANDRY

23. Dairy Cattle. Purebred dairy cattle; breed history; pedigrees; family lines and methods of outstanding breeders; the application of the principles of genetics to the improvement of dairy cattle; herd analysis. Mr. Morrow. 2 lec.; 1 lab.; 3 cr.

27. Butter and Cheese. (1) The secretion and the chemical and physical properties of milk; pasteurization; cream ripening; starters; churning; organization and operation of factories. (2) The manufacturing and marketing of more important types of cheese. Mr. Moore. 1 lec.; 1 lab.; 2 cr.

29. Domestic Dairying. Nutritive value of milk and milk products. Laboratory exercises in the manufacture of dairy products. Mr. Moore. 2 lec.; 1 lab.; 3 cr.

30. Dairy Bacteriology. The application of bacteriological principles to the production and processing of milk and other dairy products. Mr. Moore. 2 lec.; 2 lab.; 4 cr.

33, 34. Dairy Cattle and Dairy Products Judging. (1) Comparative judging of dairy cattle, using animals in the College herd and in near-by herds. (2) The various standards and grades of dairy products with practice in judging milk, butter, cheese, and ice cream. 1 lab.; 1 cr.

36. Advanced Dairy Cattle Judging. Continuation of Dairy Husbandry 33, 34. Emphasis on training for participation on dairy cattle judging teams. Mr. Morrow. Prereq.: Dairy Husbandry 34. 1 lab.; 1 cr.

60. Dairy Seminar. A study of Experiment Station and other literature covering recent research in the field of dairying. Mr. Morrow, Mr. Moore, Mr. Keener. 1 lec.; 2 cr.

62. Advanced Dairy Science. Basic data, fundamental observations, and discussions of research contributing to the present status of the dairy industry. Mr. Moore. 2 lec.; 2 cr.

64. Milk Production. Feeding and management of dairy animals; calf feeding; raising young stock; feeding for economical milk production. Mr. Morrow. 2 lec.; 1 lab.; 3 cr.

65. Market Milk. The producing, handling, and distributing of market and certified milk; dairy farm inspection; control of milk supply. Mr. Moore. 2 lec.; 1 lab.; 3 cr.

66. Ice Cream. The making, handling, and marketing of ice cream and ices. Mr. Moore. 2 lec.; 1 lab.; 3 cr.

For courses primarily for Graduate students see Catalogue of the Graduate Schools.

DRAMATICS

(See page 207.)

ECONOMICS AND BUSINESS ADMINISTRATION

HARRY W. SMITH,* *Professor;* ARTHUR W. JOHNSON, *Professor;* NORMAN ALEXANDER, *Associate Professor;* RUTH J. WOODRUFF, *Associate Professor;* CARROLL M. DEGLER, *Associate Professor;* DORIS E. TYRRELL, *Associate Professor;* JOHN D. HAUSLEIN, *Assistant Professor;* EDITH M. MCKENZIE, *Instructor;* IRENE L. LADD, *Instructor.*

ACCOUNTING

Note—Students who have completed two or more years of bookkeeping in preparatory school will be permitted to register for Intermediate Accounting (3-4) upon passing an examination covering the material of Elementary Accounting (1-2). Schedule the following courses as Acc. 1, etc.

1-2. ELEMENTARY ACCOUNTING. The fundamentals of Accounting. Theory of debit and credit; functions and classification of accounts; modern accounting records including special and columnar books. Adjusting entries, work sheets and financial statements. Single proprietorships, partnerships, and an introduction to corporations. Mr. Johnson and Mr. Hauslein. 2 lec. or rec.; 2 lab.; 4 cr.

3-4. INTERMEDIATE ACCOUNTING. Comprehensive study of Corporation Accounting, principles and objectives of valuation, consignments, installment selling, depreciation and depletion, funds and reserves, application of funds and analysis of financial statements. Mr. Johnson. Prereq.: Acc. 2 or equivalent. 2 lec. or rec.; 2 lab.; 4 cr.

5. ADVANCED ACCOUNTING. Advanced theory of Accounting, corporate consolidations, insolvencies, realization and liquidation problems, estate accounting. Mr. Johnson. Prereq.: Acc. 4 or equivalent. 2 lec. or rec.; 2 lab.; 4 cr.

6. FEDERAL TAX ACCOUNTING. The Federal Income Tax Law and accounting procedure in connection therewith. Social security taxes, estate and gift taxes. Mr. Johnson. Prereq.: Acc. 4, or permission of the instructor. 2 lec. or rec.; 2 lab.; 4 cr.

7-8. COST ACCOUNTING. The relation of Cost Accounting to general Accounting. The place of Cost Accounting in modern business. Types of cost systems and their application to particular lines of business. Careful analysis of methods of computing costs. Principles of cost

*On leave of absence.

control. Mr. Johnson. Prereq.: Acc. 4, or permission of the instructor. 2 lec. or rec.; 2 lab.; 4 cr.

9-10. Hotel Accounting. Theory and practice of keeping accounting and financial records for hotels. Mr. Johnson. Prereq.: Acc. 1-2. 2 lec.; 1 lab.; 3 cr. (Given in alternate years; offered in 1945-1946.)

Secretarial Studies

Schedule the following courses as Sec. St. 1, etc.

1-2. Shorthand. Principles of Gregg shorthand with practice in transcribing from shorthand plates and class notes. Sec. St. 7-8 must either be taken in conjunction with this course or precede it. Miss McKenzie. 5 rec.; 3 cr.

3-4. Advanced Shorthand. A review of fundamental principles, the building of shorthand vocabulary, practice in taking dictation at increasing rates of speed, and (in conjunction with Sec. St. 9-10) practice in developing skill and speed in transcription. Miss Tyrrell, Miss McKenzie. Prereq.: Sec. St. 2, or the equivalent. 5 rec.; 3 cr.

5, (5). Personal Use Typewriting. Practice in acquiring correct typing techniques, arranging outlines, notes, themes, bibliographies, and simple tabulations. Open to any student who does not know how to typewrite. Miss Ladd. 5 lab.; 1 cr.

27. Typewriting. Practice in acquiring correct typewriting techniques, and in arranging letters, tabulations, and simple manuscripts. This course is to be taken instead of Sec. St. 7 by Secretarial students who have had Sec. St. 5 or the equivalent. Miss Ladd and Miss McKenzie. 5 lab.; 1 cr.

7-8. Typewriting. Practice in acquiring correct typewriting techniques, and in arranging letters, tabulations, and simple manuscripts. Miss Ladd and Miss McKenzie. 5 lab.; 2 cr.

9-10. Advanced Typewriting. Practice in tabulating and in writing business letters, legal papers, and various business forms; and (in conjunction with Sec. St. 3-4) practice in transcribing shorthand notes. Miss Tyrrell. Prereq.: Sec. St. 8 or the equivalent. 5 lab.; 2 cr.

11. Filing. Various alphabetic, numeric, and geographic subject-matter systems of correspondence filing; cross reference; follow-up methods; filing supplies and equipment; practice in filing. Miss Ladd. Prereq.: Sec. St. 7. 3 rec. or lec.; 2 cr.

13. Office Machines. Duplicating methods; practice in typing master copies and stencils, and in operating a gelatin duplicator, a mimeo-

graph, and a mimeoscope; practice in machine transcription; and an introduction to adding and calculating machines. Miss Ladd. Prereq.: Sec. St. 8. 5 lab.; 2 cr.

17-18. Secretarial Office Prfocedure and Practice. First semester, discussion of Secretarial duties and traits; problems in the discharge of various duties; and problems in office management. Second semester, 144 hours of practice Secretarial work in business offices. Miss Tyrrell. This course must be taken in conjunction with Sec. St. 3-4 and Sec. St. 9-10, or following these courses. 3 rec.; 3 cr.

19-20. Secretarial Office Procedure. Discussion of Secretarial duties and traits; problems in the discharge of various duties; and problems in office management. Miss Tyrrell. For Two-Year Secretarial students holding part-time University clerical positions; not open to others except by permission of the instructor. 2 rec.; 2 cr.

22. Advanced Dictation. Speed building in dictation and transcription. Miss Tyrrell. Prereq.: Sec. St. 4. 3 rec.; 3 cr.

23-24. Business Writing. Practice in writing various types of business letters and reports; proofreading; editing. Miss Tyrrell. 3 lec. or rec.; 3 cr.

Economics

1-2. Principles of Economics. The fundamental principles which explain the organization and operation of the economic system. Mr. Degler, Miss Woodruff. Not open to Freshmen. 3 lec. or rec.; 3 cr.

3. Economic and Commercial Development of the United States. Miss Woodruff. 3 lec. or rec.; 3 cr.

4. Economic and Commercial Geography. The development of the resources of the continents and the influence of physical environment on industrial and agricultural progress. Miss Woodruff. 3 lec. or rec.; 3 cr.

5. Economic and Commercial Development of Europe. Not open to Freshmen. 3 lec. or rec.; 3 cr. (Not given in 1944-1945.)

(6), 6. Principles of Business. An introduction to the organization and functioning of the several aspects of Business as represented by organization; management; labor relations and personnel; marketing; pricing problems; financial administration; tax problems; reorganization and consolidation. Mr. Degler. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

10. Transportation. Development and organization of transportation agencies. Prereq.: Econ. 2. 3 lec. or rec.; 3 cr. (Not given in 1945-1946.)

21-22. Commercial Law. The law of contracts, agency, sales, negotiable instruments, partnerships, and corporations. Mr. Alexander. Elective for Juniors and Seniors. 3 lec. or rec.; 3 cr.

24. Marketing. The economics of the marketing functions, agencies, and special problems of marketing. Mr. Degler. Prereq.: Econ. 2. (May be taken concurrently.) 3 lec. or rec.; 3 cr.

40. General Insurance. The field of Insurance; social value; physical and moral hazards; risk, its nature and economic significance; reinsurance; types of insurance coverages; fire, casualty, life, war risk, social. Fidelity and surety bonds. Mr. Johnson. 3 lec. or rec.; 3 cr.

51. Labor Problems. Historical background and present status of labor organizations and problems. Prereq.: Econ. 2. 3 lec. or rec.; 3 cr.

52. Public Finance. Theory and practice of public expenditures and collection of public revenues; problems and policies in financial administration, national, state, and local; taxation problems in the state of New Hampshire. Prereq.: 12 semesters of credits in Econ. and permission of the instructor. 3 lec. or rec.; 3 cr.

53. Money and Banking. Theory and practice of money and banking. Mr. Degler. Prereq.: Econ. 2. 3 lec. or rec.; 3 cr.

54. Advanced Money and Banking. Advanced monetary theory and some of the more practical aspects of modern banking. Prereq.: A satisfactory average in Econ. 53. 3 lec. or rec.; 3 cr. (Not given in 1945-1946.)

55. Corporations. Development and forms of business organization and combination. Mr. Degler. Prereq.: Econ. 2. 3 lec. or rec.; 3 cr.

56. Corporation Finance. Methods of financing corporate enterprise. Mr. Degler. Prereq.: Econ. 2. 3 lec. or rec.; 3 cr.

57, (57). Postwar Economic Problems. This course will treat economic adjustments caused by total war; problems of reconversion of the economy from a condition of total war with special emphasis on postwar economic problems. Mr. Degler. Prereq.: Econ. 2. 3 lec. or rec.; 3 cr.

59, 60. Seminar in Current Economic Problems. Elective for Seniors majoring in Economics who have attained a satisfactory average in the Department. Recitations and reports; 3 cr.

61. Public Regulation of Business. The Federal control of business organizations and their activities with special reference to wartime regulations affecting business. Mr. Alexander. Elective for Juniors and Seniors. 3 lec. or rec.; 3 cr.

63. International Economics. Theory of international trade, foreign exchange, balance of international payments, tariffs and protection; the economic aspects of international relations, with particular reference to recent policies. Miss Woodruff. Prereq.: Econ. 2. 3 lec. or rec.; 3 cr.

The Departments of Economics and Business Administration, Agricultural Economics, Government, History, Mathematics, and Sociology offer jointly a course designed to meet the needs of those Social Science students who are interested primarily in Statistics as applied to the Social Science fields. (*See page 268.*)

For courses primarily for Graduate students, see the Catalogue of the Graduate School.

EDUCATION

A. Monroe Stowe, *Professor;* Harlan M. Bisbee, *Associate Professor Emeritus;* Everett B. Sackett, *Associate Professor;* I. N. Thut, *Associate Professor.*

Herbert A. Carroll, *Professor* (*Educational Psychology*); Helen F. McLaughlin, *Professor* (*Home Economics-Education*); Clifford S. Parker, *Professor* (*Language-Education*); Carl Lundholm, *Professor* (*Physical Education*); Marion C. Beckwith, *Associate Professor* (*Physical Education*); John S. Walsh, *Associate Professor* (*Latin-Education*); *Björnar Bergethon, *Associate Professor* (*Music-Education*); *Harry D. Berg, *Assistant Professor* (*History-Education*); *John A. Floyd, *Assistant Professor* (*French-Education*); Harold I. Leavitt, *Assistant Professor* (*General Science*); †Earl H. Little (*Agriculture-Education*); Robert H. Grant, *Assistant Professor* (*English-Education*); Paul E. Schaefer, *Assistant Professor* (*Biology-Education*); Donald M. Perkins, *Instructor* (*Mathematics-Education*).

Raymond I. Beal, John N. Cotton, Austin J. McCaffrey, Harold T. Rand, Charlotte Smith, and Murray H. Watson, *Consultants in Teacher Education.*

*On leave of absence.

†Representing the State Department of Education in the administration of the Smith-Hughes Act.

EDUCATION

COURSES IN EDUCATION

42. Educational Psychology of Adolescence. The purpose of this semester course in Educational Psychology is to help students acquire an appreciative understanding of adolescents and their educational needs and of the most effective ways of meeting those needs. Mr. Stowe, Mr. Bisbee. Prereq.: Psych. 11 or 31. 3 rec.; 3 cr.

45, (45). New Hampshire State Program of Studies and School Law. The aims and purposes, the plan of organization and administration of the secondary school as outlined in the New Hampshire State Program of Studies and School Law. Mr. Bisbee. Open to Juniors and Seniors. Preparatory for the state examinations in secondary program and in school law. 2 rec.; 2 cr.

51. Social Backgrounds of American Secondary Education. The educationally significant aspects and needs of modern democratic society. Mr. Stowe. Prereq.: Open to Juniors, Seniors, and Graduate students. 3 rec.; 3 cr.

52. Principles of American Secondary Education. The development and place of the secondary school in the American system of education; aims and functions of secondary education in our democracy; upward and downward extension of secondary education; articulation with lower and higher educational institutions, and with the community; the secondary school pupil; adjustment of the work of the school to meet individual needs; the offerings, both curricular and extra-curricular, of the secondary school; place and relationships of school board, superintendent, headmaster, and teachers. Mr. Stowe. Prereq.: Open to Juniors, Seniors, and Graduate Students. 3 rec.; 3 cr.

COURSES IN PROBLEMS IN THE TEACHING OF HIGH SCHOOL SUBJECTS

*The following courses are devoted to a study of problems of objectives, selection and organization of subject matter, teaching and testing techniques and classroom management in the teaching of the respective subjects. To be admitted into one of these courses the student must have completed, with a grade of at least C, Education 61 and in addition the courses in the subject and related subjects designated as prerequisites to the respective courses in this group. A student desiring to be considered for Supervised Teaching must complete with a grade of at least C one of these courses in the subject in which he hopes to do supervised teaching. The satisfactory completion of two of these courses is required of students completing the University Teacher-Preparation Program.

*For details concerning prerequisites and nature of these courses, see descriptions given under respective subject-matter departments.

Agriculture-Education (ag-ed) 92. Problems in the Teaching of High School Agriculture. Mr. Little. Open only to Seniors in Agricultural Teacher Preparation. 3 lec.; 3 cr.

Art-Education (art-ed) 91. Problems of Teaching Art in Elementary Schools. (3 cr.) Mr. Thomas.

Art-Education (art-ed) 92. Problems of Teaching Art in Secondary Schools. (3 cr.) Mr. Thomas.

Biology-Education (bi-ed) 91. Problems in the Teaching of High School Biology. (3 cr.) Mr. Schaefer.

English-Education (eng-ed) 91. Problems in the Teaching of High School English. (3 cr.) Mr. Grant.

General Science-Education (gs-ed) 91. Problems in the Teaching of General Science. (3 cr.) Mr. Leavitt.

History-Education (hist-ed) 91. Problems in the Teaching of High School History. (3 cr.) Mr. Berg.

Home Economics-Education (he-ed) 91. Problems in the Teaching of High School Home Economics. (3 cr.) Mrs. McLaughlin.

Language-Education (lang-ed) 91. Problems in the Teaching of Foreign Languages in the High School. (3 cr.) Mr. Parker.

Latin-Education (lat-ed) 91, 92. Problems in the Teaching of High School Latin. (3 cr.) Mr. Walsh.

Mathematics-Education (math-ed) 91. Problems in the Teaching of High School Mathematics. (3 cr.) Mr. Perkins.

Music-Education (mu-ed) 91. Problems in the Teaching of Elementary School Music. (3 cr.) Mr. Bergethon.

Music-Education (mu-ed) 92. Problems in the Teaching of Secondary School Music. (3 cr.) Mr. Bergethon.

Music-Education (mu-ed) 95. The Teaching of Stringed Instruments. (2 cr.) Mr. Bergethon.

Music-Education (mu-ed) 96. The Teaching of Woodwind Instruments. (2 cr.) Mr. Bergethon.

Music-Education (mu-ed) 97. The Teaching of Brass and Percussion Instruments. (2 cr.) Mr. Bergethon.

Physical Education (p-e) 91. Problems in the Teaching of Physical Education for Women. (4 cr.) Miss Beckwith.

Psychology-Education (psy-ed) 91. Problems in the Teaching of High School Psychology. (3 cr.) Mr. Stowe.

COURSES IN SUPERVISED TEACHING

This work is required in the Teacher Preparation Program. It is open only to students whose applications are approved by the Head of the Department of Education and the Supervisor of Student Teaching in the subject or subjects in which the applicant desires to do supervised teaching. Applications should be filed in the office of the Department of Education on or before November 15 of the academic year in which the supervised teaching is to be done. No applications will be considered unless the applicant has completed with a grade of at least C the following courses in Education: 42, 51-52, and 61, and, with an average grade of C or better, at least 18 semester credits in the subject-matter field in which he desires to teach under supervision. The applicant must also complete with a grade of at least C a course in the problems of teaching the subject in which he desires to do supervised teaching.

Students may be enrolled for from 6 to 14 credits of work in Supervised Teaching in the second semester of the academic year. Students registered in the College of Liberal Arts may count no more than 12 semester credits in Supervised Teaching toward the fulfillment of the major requirements in Education.

EDUCATION-AGRICULTURE (AG-ED) 93. SUPERVISED TEACHING IN HIGH SCHOOL AGRICULTURE. Prereq.: Senior standing in AG-ED Curriculum.

EDUCATION-ART (ED-ART) 94. SUPERVISED TEACHING IN SECONDARY SCHOOL ART. Prereq.: ART-ED 92.

EDUCATION-BIOLOGY (ED-BI) 93, 94. SUPERVISED TEACHING IN HIGH SCHOOL BIOLOGY. Prereq.: BI-ED 91.

EDUCATION-COMMERCE (ED-CS) 94. SUPERVISED TEACHING IN HIGH SCHOOL COMMERCIAL SUBJECTS.

EDUCATION-ECONOMICS (ED-ECON) 94. SUPERVISED TEACHING IN HIGH SCHOOL ECONOMICS. Prereq.: HIST-ED 91.

EDUCATION-ENGLISH (ED-ENG) 94. SUPERVISED TEACHING IN HIGH SCHOOL ENGLISH. Prereq.: ENG-ED 91.

EDUCATION-FRENCH (ED-FR) 94. SUPERVISED TEACHING IN HIGH SCHOOL FRENCH. Prereq.: LANG-ED 91.

EDUCATION-GENERAL SCIENCE (ED-GS) 94. SUPERVISED TEACHING IN GENERAL SCIENCE. Prereq.: GS-ED 91.

EDUCATION-HISTORY (ED-HIST) 94. SUPERVISED TEACHING IN HIGH SCHOOL HISTORY. Prereq.: HIST-ED 91.

HOME ECONOMICS-EDUCATION (ED-HE) 94. SUPERVISED TEACHING IN HIGH SCHOOL HOME ECONOMICS. Prereq.: HE-ED 91.

EDUCATION-LATIN (ED-LAT) 94. SUPERVISED TEACHING IN HIGH SCHOOL LATIN.

EDUCATION-MATHEMATICS (ED-MATH) 94. SUPERVISED TEACHING IN HIGH SCHOOL MATHEMATICS. Prereq.: MATH-ED 91.

EDUCATION-MUSIC (ED-MU) 93. SUPERVISED TEACHING IN ELEMENTARY SCHOOL MUSIC. Prereq.: MU-ED 91.

EDUCATION-MUSIC (ED-MU) 94. SUPERVISED TEACHING IN SECONDARY SCHOOL MUSIC. Prereq.: MU-ED 92.

EDUCATION-PHYSICAL EDUCATION (ED-PE) 93, (93). DIRECTED TEACHING IN PHYSICAL EDUCATION.

EDUCATION-PHYSICAL EDUCATION (ED-PE) 94. SUPERVISED TEACHING OF PHYSICAL EDUCATION IN THE FIELD.

EDUCATION-SOCIOLOGY (ED-SOC) 94. SUPERVISED TEACHING IN HIGH SCHOOL SOCIOLOGY. Prereq.: HIST-ED 91.

55. GENERAL EDUCATIONAL PSYCHOLOGY. A general survey of the applications of Psychology to the educational field. The relation of growth, learning, intelligence, individual differences, and personality to more effective learning situations. Applications of Psychology to examples of learning drawn from elementary and secondary schools. Mr. Carroll. Prereq.: Psych. 11 or 31. 3 lec.; 3 cr.

61, (61). PRINCIPLES AND PROBLEMS OF TEACHING IN THE SECONDARY SCHOOL. (1) Secondary school objectives and the objectives in the teaching of secondary school subjects; (2) principles of teaching and of directing learning incorporated in teaching which meets the needs of high school students and attains the objectives of the secondary school; (3) secondary school tests and the ways in which teachers are endeavoring to ascertain the extent to which their objectives are being attained; (4) class management, the purpose of which is to insure conditions favorable to the attainment of the objectives of the secondary school. Mr. Thut. Prereq.: Ed. 42. 3 rec.; 1 two-hour lab.; 4 cr.

65. EDUCATIONAL TESTS AND MEASUREMENTS. The nature of measurement. Classification and evaluation of tests. Standardized tests in subject-matter fields. The construction of tests in classroom practice. Diagnosis and prognosis of pupils' aptitudes, achievements, attitudes, and interests in the public school program with particular emphasis upon the role of tests. Mr. Carroll. Prereq.: Psych. 11. 3 lec.; 3 cr.

75. Character Education in the Schools. Environmental factors which exert an important influence upon pupils of adolescent and pre-adolescent age; the development of wholesome ideals, attitudes, habits, personality and character traits; direct and indirect methods of character development through school subjects, co-curricular and extra-curricular activities. Mr. Bisbee. Open to Seniors who have satisfactorily completed Education 42. 2 rec.; 2 cr.

76. Philosophy of Education. A study of current educational objectives and practices and the philosophical foundations upon which they are based. Mr. Thut. Prereq.: Ed. 42, 51-52. 3 rec.; 3 cr.

89. Mental Hygiene for Teachers. A study of the fundamental needs of human beings, with special emphasis on the mental and emotional conflicts of secondary-school students arising from the thwarting of these needs. Ways of recognizing these conflicts by their manifestations, and of helping students to resolve them will be treated extensively in the course. Prereq.: Psych. 11 or 31. 3 lec.; 3 cr. Open to Seniors and Graduate students. Not open to students who have completed Psych. 81 or 47.

ELECTRICAL ENGINEERING

Leon W. Hitchcock, *Professor;* *Frederick D. Jackson, *Associate Professor;* William B. Nulsen, *Associate Professor.*

1-2. Electrical Engineering. Elementary electrical circuits and machinery. Prereq.: Math. 6. E.E. 1: 1 rec.; 1 lab.; 2 cr. E.E. 2: 3 rec.; 1 lab.; 4 cr.

7. Electronics and Communication. Principles and applications of vacuum tubes, amplifiers, photo-electric cells, and electronic apparatus in communication and industry. Prereq.: E.E. 33, 36, 38, or 54. 2 rec.; 1 lab.; 3 cr.

12. Illumination. Photometry, light sources, lighting applications, wiring methods, and National Electrical Code Rules. Prereq.: E.E. 33, 36, 38, or 53. 2 rec.; 2 cr.

13. Electrical Problems. Magnetic circuits, direct and alternating current circuits and machinery, batteries and meters. Prereq.: E.E. 2. 2 rec.; 2 cr.

14. Electronic Tubes. Principles of electronics and vacuum tubes. Prereq.: E.E. 53. 2 rec.; 1 lab.; 3 cr.

*On leave of absence.

15, 16, 17, 18. Student Branch of the American Institute of Electrical Engineers. No credit. Students passing this course will receive a grade of Cr.

19, 20. Thesis. Original investigation in the field of Electrical Engineering. Prereq.: E.E. 54 and E.E. 24. 3-5 lab.; 3-5 cr.

23-24. Laboratory. Direct and alternating current equipment; laboratory practice and report presentation. Prereq.: E.E. 2. 1 lab.; 2 cr.

25. Laboratory. Continuation of E.E. 24. 2 lab.; 4 cr.

31. Circuits and Appliances. National Electrical Code, wiring methods, fuses, circuit breakers, meters, motors, signal circuits, and telephones. Prereq.: Hotel Administration 21, 22, or Physics 2. 2 rec.; 1 lab.; 3 cr.

33. Fundamentals of Electricity. Electric and magnetic circuits, storage batteries, direct and alternating current equipment, electronics. For chemical engineers. Prereq.: Phys. 8. 3 rec.; 1 lab.; 4 cr.

36. Practical Electricity. Direct and alternating current circuits, machines, and equipment. For civil engineers. Prereq.: Phys. 8. 3 rec.; 1 lab.; 4 cr.

37-38. Electrical Machinery. Direct and alternating current circuits and machines; theory and application of electrical equipment. For mechanical engineers. Prereq.: Phys. 8. 3 rec.; 1 lab.; 4 cr.

42. Electronic Tubes. Principles and industrial applications of electronic apparatus. Prereq.: E.E. 33, 36, or 37. Elective for students not register in the E.E. Curriculum. 2 rec.; 1 lab.; 3 cr.

53-54. Electrical Engineering. Direct current machinery, alternating current circuits, alternators and transformers. Prereq.: Phys. 8, Math. 8, and E.E. 2. 3 rec.; 3 cr.

55. Electrical Engineering. Continuation of E.E. 54. Induction motors, regulators, synchronous machines, and transmission lines. Prereq.: E.E. 54. 3 rec.; 3 cr.

58. Radio and Wire Communication. Radio frequency equipment and radiation. Telephone apparatus, circuits, and transmission. Equivalent networks, filters, and line and cable characteristics. Prereq.: E.E. 7. 3 rec.; 1 lab.; 4 cr.

60. Advanced Circuit Theory. Application of differential equations and Heaviside's operators to the solution of circuit problems. The derivation of fundamental formulas and constants. Prereq.: E.E. 55. Elective for selected Seniors in E.E. 3 rec.; 1 lab.; 4 cr.

76. Laboratory. Advanced laboratory testing for students with approved projects. Prereq.: E.E. 25. 4 lab.; 4 cr.

78. Advanced Electronics Laboratory. Special problems in electron tube applications, and in radio and audio frequency equipment. Prereq.: E.E. 7. Elective for selected Technology Seniors. Lab. and conferences; 4 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

ENGLISH

Harold H. Scudder, *Professor;* Alfred E. Richards, *Professor Emeritus;* William G. Hennessy, *Professor;* Lucinda P. Smith, *Associate Professor;* Carroll S. Towle, *Associate Professor;* Edmund A. Cortez, *Associate Professor of Speech;* *Paul S. Schoedinger, *Assistant Professor;* Robert G. Webster, *Assistant Professor;* *Thomas H. McGrail, *Assistant Professor;* Sylvester H. Bingham, *Assistant Professor;* Robert H. Grant, *Assistant Professor;* G. Harris Daggett, *Assistant Professor;* J. Donald Batcheller, *Assistant Professor of Speech.*

The courses in the Department of English are open to students as follows:

Courses primarily open to Freshmen: English 1, 3, 4, 43, 44, 45, 46; 6; (5).

Courses primarily open to Sophomores: English 5, (5); 7, 8; 10; 11, 12; 14; 17, 18; 19; 20; 23, 24; 25, 26; 28; 32; 34; 35, (35); 36; 39, (39); 40.

Courses primarily open to Juniors: All the preceding and the following: English 37, 38; 52; 53, 54; 55; 56; 57; 59; 61, 62; 63, 64; 65, 66.

Courses primarily open to Seniors: All the preceding and the following: English 67, 68; 41, (41); 91.

1. Elementary Written and Oral English. Designed to meet the needs of each student in writing and in speech, this course will vary in content for each individual. All Freshmen will be examined during Freshman Week in this subject, and those whose attainments are found to be satisfactory will be released from instruction at once. Others will be grouped for individual instruction, and will be released individually from time to time as soon as their work is found to be satisfactory. Anyone may be recalled and reassigned to an instruction

*On leave of absence.

group at any time in his four years in college upon report of any member of the Faculty that the student's work in English is deficient. Besides written English, this subject covers correction for all Freshmen found to be defective in speech. (See Speech Correction for Freshmen, page 212.) This is a non-credit course for students entering after May 15, 1943, but all students are required to meet the requirements of this course. Mrs. Smith, and a special staff.

Conference schedules will be arranged by Instructors. Members of upper classes may enroll if they desire, for assistance in writing or for speech correction. Apply to Mrs. Smith.

3, 4. Survey of English Literature. A general survey of English literature from its beginnings to the year 1900. Lectures and recitations. Mr. Richards, Mr. Daggett, Mr. Bingham, Mr. Hennessy. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

43, (43), 44, (44). Reading for Thought. Analysis of the thought and structure of three forms of writing: first semester: exposition; second semester: description and narration. Mr. Bingham. For Freshmen. Open to others upon permission of instructor. 3 lec. or rec.; 3 cr.

45, 46. English for Engineers. This course is built around the special interests of engineers, and will include (1) a study of the American way of life through the reading of biographies of famous scientists, essays, short stories, plays, and poetry; (2) the written and oral expression of the ideas suggested by the reading. Mrs. Smith, Mr. Daggett. For Freshmen in the College of Technology. Open to others with permission of instructor. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

7, 8. Advanced Composition. Study and practice of writing brief impressions, essays, sketches, and narratives. Collateral readings; weekly conferences. English 7 should be taken before English 8, but the instructor will consider special cases. Mr. Towle. Elective for Sophomores, Juniors, and Seniors if not enrolled in English 1. 3 lec. or rec.; 3 cr.

*9, 10. News Writing. A practical study of the preparation of articles for newspapers and magazines. It is for all whose vocations will demand frequent writing for publication, and it is a preparation in part for those who intend to take up newspaper work after graduation. It does not attempt to cover the entire field of journalism, but it

*Does not meet Liberal Arts English requirement. See page 109.

surveys briefly the social role and responsibilities of the newspaper and instructs the student in the duties of a reporter and affords constant practice in the writing of news stories. Mr. Scudder. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

11, 12. Survey of American Literature. Lectures and extensive outside reading. Mr. Scudder. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

14. Mediæval and Elizabethan Drama. A survey of the English drama, exclusive of Shakespeare, from its beginnings to the closing of the theatres (1642). Mr. Richards. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

17, 18. English Literature in the Seventeenth Century. Poetry and prose from Shakespeare and Bacon to Swift and Pope, omitting the drama and the works of Milton. The poetry of John Donne and his school; of Jonson, Herrick and the "Cavaliers"; of Denham, Waller and Dryden; of the followers of Spenser, etc. The prose of such writers as Izaak Walton, Bunyan, Sir Thomas Browne, Fuller, Taylor, and John Dryden. One hour of the week will be devoted to round-table discussion in small groups. Mr. Towle. For Sophomores, Juniors, and Seniors. 2 lec. or rec.; 1 lab.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

*19. English Grammar. The fundamentals of English grammar in order to provide an understanding of the language from a structural point of view. A thorough drill in the rules and classifications. Mrs. Smith. For Sophomores, Juniors, and Seniors. 3 rec.; 3 cr.

20. Pope and His Age. The literature of the first half of the eighteenth century, with special reference to Pope, Swift, Addison, and Steele. Mr. Schoedinger. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

23, 24. Victorian Prose. Prose of the nineteenth century. Particular attention is given during the first semester to the work of Coleridge, Lamb, Carlyle, Hazlitt, Newman, and Matthew Arnold; in the second semester to the work of John Ruskin as writer, art critic, and social reformer. Mr. Richards and Mr. Hennessy. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1945-1946.)

25, 26. Victorian Poetry. English poetry from 1830 to 1900, with special reference to Tennyson and Browning. Mr. Daggett. For

*Does not meet Liberal Arts English requirement. See page 109.

Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

28. The Bible as Literature. A study of the various literary types found in the Bible, and a survey of the influence of the Bible on English literature. Mr. Richards. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

32. Modern British Poetry. A study of British poetry written since 1900. Mr. Towle. Elective for Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1945-1946.)

34. Modern American Poetry. A study of American poetry written since 1900. Mr. Towle. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

52. Introduction to Drama. A comprehensive survey of dramatic literature from the Greek drama to the present. Mr. Hennessy. For Juniors, Seniors, and Graduate students. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

53, 54. Shakespeare's Plays. A study of the major histories, comedies, and tragedies. Shakespeare is interpreted as poet and as dramatist. Mr. Hennessy. For Juniors. Seniors, and Graduate students. 3 lec.; 3 cr.

55. Milton. Milton's minor poetry and the *Paradise Lost.* Consideration of the social, political, and religious history of Milton's day. Mr. Richards. For Juniors, Seniors, and Graduate students. 3 lec.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

56. Johnson and His Circle. Boswell, Johnson, and their time. Mr. Scudder. For Juniors, Seniors, and Graduate students. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1945-1946.)

57. The English Novel in the Eighteenth Century. The novel from Defoe through the Gothic Romance. Lectures and outside reading. Mr. Bingham. For Juniors, Seniors, and Graduate students. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1945-1946.)

59. The English Novel in the Nineteenth Century. The novel from Jane Austen to Thomas Hardy. Lectures, recitations, and reading. Mr. Scudder. For Juniors, Seniors, and Graduate students. 3 lec.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

61, 62. The English Romantic Writers. The major writers of the early nineteenth century, such as Wordsworth, Coleridge, Byron, Lamb, Shelley, Hazlitt, and Keats. Readings from the work of many

minor writers, especially those of the late eighteenth century. One hour of the week devoted to round-table discussion with small groups. Mr. Towle. For Juniors, Seniors, and Graduate students. 2 lec.; 1 rec.; 3 cr.

63, 64. Advanced American Literature. A series of studies in special fields, the subjects to be announced. In 1945-1946 the subjects are: American Novel, and American Poetry of the 19th Century. Mr. Scudder. For Juniors. Seniors, and Graduate students. 3 lec.; 3 cr.

65, 66. Writing as an Art. The study and practice of forms of writing through an examination of the history of literary criticism. Reading of famous critical essays and of many contemporary opinions, correlated with practice writing of various types. Each student is allowed to spend much of his time with the type he finds most congenial. Collateral readings, with frequent class discussions and conferences. Mr. Towle. Prereq.: Eng. 7. For Juniors, Seniors, and Graduate students. 2 lec.; 1 rec.; 3 cr. (Given in alternate years; offered in 1945-1946.)

67-68. Early English and Chaucer. Chaucer's life and times, and a reading of most of his poetry. First semester: Old and Middle English grammar as an introduction to the language of Chaucer and a portion of *The Canterbury Tales.* Second semester: *Troilus and Cressida,* and *The Canterbury Tales.* Mr. Richards. For Seniors and Graduate students. 3 lec. or rec.; 3 cr.

SERVICE COURSES

*41, (41). Expository Writing. Practice in the writing of reports and other papers pertaining to technical subjects; recommendation reports, progress reports, information reports; term papers or short theses; business letters of various types, such as letters of application, of complaint, and of sales. Mr. Webster. For Seniors in Agriculture and Technology. 2 lec.; 2 cr.

*English-Education (eng-ed) 91. Problems in the Teaching of High School English. The selection and organization of subject-matter, the most efficient methods of presenting this material, and the problems which arise within the wide field of the teaching of high school English. Mr. Grant. Prereq.: Three years of English courses approved by the Head of the Department, and a demonstration of proficiency in English grammar, either by the satisfactory completion of Eng. 19, or by examination. For all students who plan to teach English in secondary schools and for students majoring in Language, History, or Education. 2 lec.; 1 lab.; 3 cr.

*Does not meet Liberal Arts English requirement. See page 109.

Business Writing. A course in Business Writing is offered by the Department of Economics and Business Administration. See Sec. St. 23. 24.

For courses primarily for Graduate students, see the Catalogue of the Graduate School.

Speech

Mr. Cortez, *In Charge*

The Speech Clinic. Any member of the University may go to the Speech Clinic, in room 306 Thompson Hall, to have his voice and speech analyzed. The clinician in charge examines each person privately and recommends appropriate treatments. Unless the person has to satisfy a University requirement in Speech, he is under no obligation to accept the recommendations of the clinician. Consultations are by appointment.

Speech Correction for Freshmen. All Freshmen are required to take a speech test. The test is ordinarily given during Freshmen Week. Those students who are found to have severe speech difficulties are listed in *Group I,* and are scheduled to report to the Speech Clinic for individual help until such time as their speech is sufficiently improved. Those students who are found to have milder speech difficulties are listed in *Group II,* and are scheduled to meet in small sections until their speech is satisfactory.

*5, (5). Play Production. This is not an elective, but a laboratory course in the public presentation of notable plays. Members of the course are elected by competitive trial, and credit is given both for acting and stage management. Credit is also given (but not in English) for technical assistance. (See Arts 35.) Mr. Batcheller. Open to all students, except Freshmen in the first semester. ½ to 3 cr. *This course cannot be used to satisfy major requirements.*

*6. Varsity Debating. Designed to give experience in public discussion and debate. Debates will be arranged with other college teams. (Not offered in 1945-1946.) Open to all students by permission of the instructor. No student may receive more than six credits in this course during his entire four years. 1-6 semester credits. *This course cannot be used to satisfy major requirements.*

35 (35). Public Speaking. How to gather material for a talk, organize it, and present it to an audience. The psychology of an audience. Technique of group control. Extemporaneous and impromptu

*Does not meet Liberal Arts English requirement. See page 109.

speaking for every occasion. Mr. Cortez and Mr. Batcheller. For Sophomores, Juniors, and Seniors. 3 rec.; 3 cr.

36. Oral Reading. The art of reading from the page; expressive reading of lyrics and other types of literature; platform reading for entertainment; choric speaking. Mr. Cortez. Prereq.: Eng. 35 or its equivalent, and permission of instructor. For Sophomores, Juniors, and Seniors. 3 rec.; 3 cr. (Not offered in 1945-1946.)

*37, 38. Discussion and Debate. First semester: The proposition and its main issues; sources and tests of evidence; construction of the argumentative brief; principal laws of reasoning; principal fallacies of reasoning; practice debates. Second semester: Application and evaluation of principles of problem-solving in groups; forms of discussion and debate; parliamentary procedure. Subjects for research and debate will be selected from current events. (Not offered in 1945-1946.) Prereq.: Eng. 35 or its equivalent. For Juniors and Seniors (and for Sophomores by permission of the instructor). 3 rec.; 3 cr.

*39, (39). Radio Speaking. Practice in presenting readings, sketches, and prepared speeches, and in radio announcing; analysis of radio programs; elementary practice in the preparation and delivery of radio continuity. Outstanding students will be given opportunity to participate in broadcasts. Mr. Cortez. Prereq.: Permission of the instructor. For Sophomores, Juniors, and Seniors. 3 rec.; 3 cr.

*40. Stage Direction. A laboratory course in the fundamentals of acting, stage direction, and allied phases of play production. Designed to fit the needs of prospective teachers, particularly teachers of English. Mr. Batcheller. Prereq.: The permission of the instructor. For Sophomores, Juniors, and Seniors. 3 lab.; 3 cr.

ENTOMOLOGY

Walter C. O'Kane, *Professor;* James G. Conklin, *Associate Professor.*

2. Elementary Entomology. An introduction to Entomology in its broad aspects. The structure, biology, and classification of insects. Each student is required to make an insect collection. Mr. Conklin. (Formerly given as Ent. 6.) 2 lec.; 1 lab.; 3 cr.

51. Insects of Orchard and Garden. Studies of the life histories and habits of important insect pests of orchard, garden, and certain field crops. Methods of control. Apparatus for applying insecticides.

*Does not meet Liberal Arts English requirement.

Mr. Conklin. 2 lec.; 1 lab.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

54. Medical Entomology. Insects and arachnids in relation to public health. The more important disease carriers, their biologies, and means of control. Adapted especially for students interested in public health or medicine. Mr. Conklin. Elective for Juniors and Seniors. 2 lec.; 1 lab.; 3 cr.

55. Household Insects, Stored Products Insects. The problems of pest prevention and control in buildings. Pests of fabrics and clothing. Insects affecting foodstuffs. Termites and other insects attacking wooden structures. Mr. Conklin. 1 lec.; 1 lab.; 2 cr. (Given in alternate years; offered in 1945-1946.)

56. Forest Insects. Principles of Forest Entomology. Life histories and habits of the more destructive forest insects. Forest insect control. Adapted especially for forestry students. Mr. Conklin. Prereq.: Ent. 2. 1 lec.; 1 lab.; 2 cr.

57-58. Advanced Entomology. The anatomy and physiology of insects. Systematic Entomology. Mr. Conklin. Open to others than Ent. majors by permission of the Head of the Department. 2 lec.; 2 lab.; 4 cr.

59-60. Advanced Economic Entomology. Problems in applied Entomology. The literature of Economic Entomology. Investigational methods. Studies of the specialized phases of Entomology. Mr. Conklin. Required of Ent. majors. Open to others than Ent. majors by permission of the Head of the Department. 1 to 3 cr.

For courses primarily for Graduate students see Catalogue of the Graduate School.

FINE ARTS

(See The Arts, page 181.)

FORESTRY

Clark L. Stevens, *Professor;* Lewis C. Swain, *Assistant Professor;* William A. Medesy, *Assistant Professor.*

1. Management of Farm Woodlands. Forestry principles as applied to the orderly handling of farm woodlots. Mr. Swain. Elective for all students, except Forestry majors. 2 lec.; 1 lab.; 3 cr.

2, 3, 4, 5, 6, 7. 8. Forestry Practice. Practical work in the University Forest, expected of all foresters. The student gains experience

in all forestry operations, and progresses from laborer to supervisor. Mr. Stevens and others. 1 lab.; 1 cr.

21. Forest Ecology. Summer camp course.* Composition of the forest association; effect of environment on growth of stands; studies of forest vegetation. Mr. Stevens. Elective for all students. Forty hours per week for 8 weeks. 10 cr.

26. Wood Identification. The uses of lumber; physical properties and identification of the commercially important woods. Mr. Swain. 2 lec.; 1 lab.; 3 cr.

27-28. Forest Mensuration. Practice in forest mapping; measurement of forest products; timber cruising; and studies of growth and yield of the commercial tree species of New England. Mr. Medesy. For foresters. Elective for others with approval of the instructor. 1 lec.; 2 lab.; 3 cr.

29-30. Silviculture. The art of producing and tending a forest. Seed collection, storage, and testing; nursery practice; forest plantations; natural regeneration, intermediate cuttings; silvicultural practice. Mr. Stevens. For Foresters. Elective for others with approval of the instructor. 2 lec.; 1 lab.; 3 cr.

31, 32. Forest Utilization. Methods of logging and milling in the chief lumber-producing regions of the United States; forest products, their manufacture and marketing; with special problems of the lumber business. Mr. Swain. 2 lec.; 1 lab.; 3 cr.

34. Fish and Game Management. Designed to acquaint the student with the fundamental principles underlying the management of wild life as a forest crop. Mr. Stevens. For students in Game Management Group. Elective for others with approval of the instructor. 2 lec.; 1 lab.; 3 cr.

35-36. Thesis. Work to be arranged according to the needs of individual students. Mr. Stevens, Mr. Swain, Mr. Medesy. Prereq.: Forestry 26, 28, and 29. 2 lec.; 2 or 3 cr.

37. Forest Recreation. Principles and methods for planning, designing, and administering public and semi-public forest recreational areas. Mr. Medesy. Prereq.: Permisison of the instructor. Recommended for Seniors in Forestry. 2 lec.; 1 lab.; 3 cr.

39-40. Forest Management. Management of woodlots and large forest tracts for the purposes of gaining the largest immediate and

*See description of Summer Camp, page 43.

future returns. Preparation of working plans to coördinate forest operations. Mr. Medesy. Prereq.: Forestry 26; 27-28; 29-30; 42. 2 lec.; 2 lab.; 4 cr.

41. Practical Fish and Game Management. Summer Camp Course.* Field work on the University Forest at Passaconaway, N. H., and on a game management area of the White Mountain National Forest. Mr. Stevens and others. Prereq.: For students in Game Management Group. Elective for others by permission of the instructor. Forty hours per week for 8 weeks. 10 cr.

42. Timber Survey. Summer Camp Course.* Investigation of a large block of timberland on the White Mountain National Forest. The student prepares a detailed timber survey report and a topographic map of the area. Mr. Stevens, Mr. Swain, Mr. Medesy. Prereq.: Forestry 28. Forty hours per week for 8 weeks. 10 cr.

52. History of Forestry. The history of forestry; its development and present status in different countries. Mr. Medesy. Prereq.: Permission of the instructor. 3 lec.; 3 cr.

53. Wildlife Research Problems. Summer Camp Course.* Special problems in the management of fish and game. Open to advanced students or to those who show unusual promise in the field of research. Mr. Stevens and others. Prereq.: Permission of the instructor. Forty hours per week for 8 weeks. 10 cr.

FRENCH

(See Languages, page 233.)

GEOGRAPHY

(See page 218.)

GEOLOGY

T. Ralph Meyers, *Associate Professor;* Donald H. Chapman, *Associate Professor;* Glenn W. Stewart, *Instructor;* Marjorie Smith, *Instructor.*

COURSES IN GEOLOGY

1-2. Principles of Geology. The earth and its history. A consideration of land forms and a discussion of the materials and structures of the earth's crust. The interpretation of past geologic events, and their effect on the development of life forms. Messrs. Meyers, Chapman, and Stewart. 3 lec. or rec.; 1 lab.; 4 cr. *This course cannot be used to satisfy major requirements.*

*See Camp description, page 43.

7, (7). General Geology. A general introductory course in Physical Geology. The structures and materials of the earth's crust and the forces which have produced and altered them. Mr. Stewart. For students in Technology and Agriculture. Open to Liberal Arts students by permission only. 2 lec. or rec.; 2 cr.

11. Physiography. The forces producing the present aspect of the land surface, particularly that of New England. Special emphasis on the work of running water, glaciers, and marine agents. Field trips during the fall season. Mr. Chapman. Prereq.: Geol. 2 or Geog. 3. 3 lec. or rec.; 1 lab.; 4 cr.

12. Structural Geology. An advanced study of the structures of the earth's crust and of the dynamics of their formation. Mountain systems, metamorphism, igneous structures, and theories of earth origin. Mr. Stewart. Prereq.: One course in Geol. 3 lec. or rec.; 1 lab.; 4 cr.

51-52. Mineralogy. The minerals that make up the earth's crust: crystals; minerals and their determination by means of physical and chemical characteristics; and the aggregation of minerals to form rocks. Mr. Stewart. Prereq.: One course in Geol. or one course in Chem. 2 lec. or rec.; 1 lab.; 3 cr.

53, 54. Economic Geology. First semester: the types of coal and their occurrence in the United States; petroleum, the structures in which it is found, and the distribution and geology of oil fields, especially in the United States; cement materials, building stones and related materials. Second semester: the metals, their ores, and the geology of important ore deposits. Mr. Meyers. Prereq.: One year's work in Geol. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

GEOLOGY

55-56. Paleontology. The history, development, and morphology of the various groups of animals and, to a lesser extent, plants, as recorded by fossils found in the rocks of the earth's crust. Mr. Meyers. Prereq.: One year's work in Geol. or Zool. 2 lec. or rec.; 1 lab.; 3 cr. (Given in alternate years; offered in 1945-1946.)

57, (57). Geologic Problems. Special problems by means of conferences, assigned readings, and field work, fitted to individual needs. Messrs. Meyers, Chapman, and Stewart. Prereq.: Permission of the instructor. 1-5 cr. This course may be taken more than once.

For courses primarily for Graduate students, see the Catalogue of the Graduate School.

GEOGRAPHY

1, 2. Geography of the Western and Eastern Hemispheres. A general survey of the geography of the earth, with emphasis upon its physical aspects. First semester: Western Hemisphere. Second semester: Eastern Hemisphere. Mr. Chapman. 2 lec. or rec.; 2 cr. *This course cannot be used to satisfy Science requirements, nor major requirements.*

3. Physical Geography. A study of the physical elements of Geography and their relationship to man. Mr. Chapman. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy Science requirements.*

52. Geography of North America. The North American continent and its physical aspects. The weather and climate of the continent. The countries, treated regionally. Intensive study of the physical geography of New England. Mr. Chapman. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy Science requirements.*

ECONOMIC AND COMMERCIAL GEOGRAPHY

(See Economics 4.)

METEOROLOGY

Register for these courses as Met. 1, etc.

1. The Weather. The interpretation of atmospheric phenomena: the heating and circulation of the atmosphere and the nature and movement of the air masses which influence the weather of North America and particularly New England. Mr. Chapman. 2 lec. or rec.; 2 cr. *This course cannot be used to satisfy Science requirements nor major requirements.*

2. Climates of the World. Classification of climates of the world. Examples and brief descriptions of major climatic types, and their influence on the life of man. Mr. Chapman. 2 lec. or rec.; 2 cr. *This course cannot be used to satisfy Science requirements nor major requirements.*

25. Meteorological Observations. Prompt and accurate determination of weather conditions, current methods of coding and transmission of weather data, and the care of weather instruments and records will be emphasized. Mr. Meyers. 2 lec. or rec.; 2 cr. *This course cannot be used to satisfy Science requirements.*

26. Weather Map Plotting. A training course, using modern methods, for the plotting and interpretation of observational data used

in the preparation of weather maps. Mr. Chapman. Prereq.: A course in Meteorology. 2 lec. or lab.; 2 cr.

57, (57). Meteorological Problems. Special problems by means of conferences, assigned readings, and laboratory work, fitted to individual needs. Mr. Chapman. Prereq.: Permission of the instructor. 1-5 cr. *This course may be taken more than once.*

GERMAN

(See Languages, page 235.)

GOVERNMENT

Norman Alexander, *Associate Professor and Acting Head of Department;* *Lashley G. Harvey, *Assistant Professor.*

The Bureau of Government Research

The Bureau of Government Research was established to meet the demands for information about governmental matters and to serve as a clearing house on problems of public administration. Its activities are instruction, research, and service, with emphasis upon public administration and in-service training.

Juniors or Seniors majoring in Government may obtain practical training in public administration by serving as interns in some department of the state or local government. See Social Science 81, page 268.

1. Citizenship. Present-day society; its political and social institutions; the development of an independent and informed attitude on vital political questions and the scientific approach to them; problems of political expression. The development of the state and its place in present-day society. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

2. Current Problems. A survey of the economic, political, diplomatic problems involved in the waging of this total war. Postwar problems and international planning. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

3-4. American Government. A study of the organization and operation of the American political system with special emphasis on present-day problems of national, state, and local governments. Mr. Alexander. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

5-6. Comparative Government. A comparative study of the chief governments of Europe, of the Far East, and of one or more of the

*On leave of absence.

Latin American countries. Special attention is given to recent political developments and to differences in the procedures and principles of the democracies and of the totalitarian governments. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

9. Politics and Public Opinion. A study of political parties — their history and organization. Pressure groups, party machines and bosses, campaign methods, party platforms. Public opinion — rational and irrational elements. The role of the political party in shaping public opinion and in the political process with special emphasis on the current political scene. Mr. Alexander. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

51. The American Constitution. A study of the development of the American Constitution. Consideration is given to the economic and social aspects of court decisions as well as to the legal principles involved. Mr. Alexander. Prereq.: Govt. 3. 3 lec. or rec.; 3 cr.

52. Introduction to Jurisprudence. Generalized principles of law and legal institutions. The law as an institution of social and political control. Prereq.: Govt. 53-54 or 51, or Econ. 21-22. 3 lec. or rec.; 3 cr.

53-54. International Law. The laws of peace and war; international legislation, treaties, sanctions; developments growing out of the war. Discussions supplemented by preparation and argument of cases. For Juniors and Seniors. 3 lec. or rec.; 3 cr. (Previously given as Govt. 7-8.)

55-56. International Relations and Organizations. The study of the relationship of forces in international politics; analysis of plans for cooperation among states including current proposals for regional and world organizations. For Juniors and Seniors. 3 lec. or rec.; 3 cr.

57. Principles of Public Administration. A general study of the field of public administration including such topics as the organization of administrative services, financial administration, personnel management, forms of administrative action, legislative and judicial control over the administrative process. Prereq.: Govt. 3, or open to Juniors and Seniors who are taking Govt. 3. 3 lec. or rec.; 3 cr.

58. Problems of Public Administration. An intensive study of the problems of selected divisions of public administration chosen from such subjects as personnel management, administrative organization, financial organization and procedures, a specific administrative board or commission. Prereq.: Govt. 3 and Govt. 57. 3 lec. or rec.; 3 cr.

61-62. Community Planning. An introduction to the subject of community planning having as purposes: (1) the acquainting of the student with planning programs, and (2) the introduction of the student to specialized training for planning. For Juniors and Seniors or by special permission of the instructor. 3 lec. or rec.; 3 cr.

63. History of Political Thought. A survey of political thought from Plato to the present day. Special attention is given to the analysis of trends in political thinking and to the significance of political philosophy to contemporary problems. For Juniors and Seniors. 3 lec. or rec.; 4 cr.

65-66. Seminar. Readings, reports, and papers on assigned topics. For Senior majors in Govt. 1-4 cr. (Formerly given as Govt. 63-64.)

GREEK

(See Languages, page 236.)

HANDICRAFT

(See The Arts, page 179.)

HISTORY

Philip M. Marston, *Associate Professor;* Allan B. Partridge, *Assistant Professor;* *William Yale, *Assistant Professor;* Gibson R. Johnson, *Assistant Professor;* *Harry D. Berg, *Assistant Professor.*

In these courses an important place is given to historical reading carried on in the reference room. Often a considerable part of the work is written.

The statements below as to prerequisites are for Liberal Arts students. Agriculture and Technology students should consult the Head of the Department.

SURVEY COURSES

The following subject constitutes a basic course, required of all students in the College of Liberal Arts, to be taken in the Freshman year.

1, 2. Introduction to Contemporary Civilization. Designed to provide a background of appreciation of the social significance of man's environment, the nature of man, the cultural heritage from the past, recognition of historical allusions in literature and conversation, and knowledge of the general sequence of historic events. Prehistoric and historic social evolution. The historic explanation of modern life and an appreciation of the problems of contemporary society. Messrs. Berg, Johnson, Marston, Partridge, and Yale. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

*On leave of absence.

COURSES FOR UPPERCLASSMEN

GROUP I. ANCIENT AND MEDIÆVAL

This group includes many of the customary well-established courses in History. Students electing History courses with the general idea of rounding out their knowledge should include a selection from this group. History majors are expected to do a part of their work in it.

11. The Ancient Orient. "Pre-historic" culture in the Near East: a consideration of the contributions of the many peoples and empires, from the Persian highlands to Egypt and the Ægean, in the making of the civilization handed on to the Mediterranean and Western world. Mr. Partridge. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1944-1945.)

12. History of Greece. The deep-lying elements of Western civilization as developed by Greek thought and action. Hellenic culture and its influence, including adequate attention to the period after the death of Alexander the Great. Mr. Partridge. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1944-1945.)

13, 14. History of Rome. The great completion and integration of ancient Mediterranean civilization under the leadership of Rome. First semester: the preliterary foundations and legendary origins, the transition to republican life and institutions, and territorial expansion to the first century B.C. Second semester: the transition from republic to principate, and imperial and world affairs to the time of Justinian in 565. Mr. Partridge. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1944-1945.)

15, 16. Mediæval History. First semester: the pageant of the Middle Ages from the period of the barbarian invasions to the First Crusade. Second semester: to the 14th century. Designed: (1) to recapture the unique charm and social pattern of the Middle Ages, and (2) to interpret them as the source of modern times. Mr. Partridge. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1944-1945.)

17, 18. The Renaissance Period. The period when mediæval institutions were both being consummated and fading away, and when a recovery of ancient factors in culture mingled with modern forces. The Renaissance as an artistic and broadly cultural revival, and as a forward movement introducing the modern period. In this and in the preceding course, considerable pictorial material is used. Mr. Part-

ridge. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1944-1945.)

ENGLISH HISTORY. (See History 21.)

FAR EASTERN HISTORY. (See History 31.)

GROUP II. MODERN

This group is planned in recognition of the practical importance and large place assigned by common practice to modern, recent, and present-day aspects of History.

19, 20. MODERN EUROPEAN HISTORY. Studies of: (1) That most important phenomenon, the modern national state; (2) Western civilization as it reached a peak in Europe; (3) European expansion and world leadership, from the late 15th to the early 20th century. Eastern Europe, Asia, and Africa are referred to as backgrounds of the colonial movement. Because of its general importance, the course is open to all students; nevertheless, it is better, if possible, to study some of the earlier periods first. Mr. Yale. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

21, 22. HISTORY OF ENGLAND. The history of the British Isles from earliest times to the present, and a consideration of the British Empire and Commonwealth of Nations. A parallel to English literature, a background to American political history, and a study of English culture and institutions in the democratic and social integration of the world. Mr. Partridge. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

31, 32. HISTORY OF EAST ASIA. A survey of the growth of civilizations east of Persia, with special emphasis on China, Japan, and their neighbors. This course deals with one-half of human history as well as with what is happening to one-half of mankind today. Mr. Rudd. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

63, 64. RECENT WORLD HISTORY. The world from the first World War, exclusive, for the most part, of American affairs, and stressing historical developments in Europe, the Near and Far East. Mr. Yale. For Juniors and Seniors by permission of the instructor. 3 lec. or rec.; 3 cr.

GROUP III. AMERICAN HISTORY

This group addresses itself to (1) the responsibility of the American student to know his own country; (2) the widespread and well established interest in New England's part in our history; (3) the developing Pan-American world; (4) some special aspects of American life and of the 19th and 20th century American culture.

7, 8. The United States from 1790 to 1900. The administration of Washington, the great forces of nationalism, expansion, democracy and sectionalism followed through the period of the Spanish-American War. Reference to such aspects of our national life as literary, artistic, scientific, and everyday life-ways, as well as the more usual political and economic events. Mr. Babcock. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

9, 10. Latin-American History. The development and influence of Spanish and Portuguese culture as a wide-spread world force; the history of the Latin-American peoples; the relationship of Latin America and North America, particularly in view of recent growth in friendly and diplomatic relations. Mr. Partridge. For Sophomores, Juniors, and Seniors. 3 lec. or rec.; 3 cr.

51, 52. Colonial and Revolutionary American History. Colonial beginnings in America, national rivalries, the English colonies, the Revolution, and our national life to 1789. Early forms of Americanism in the making. Mr. Marston. For Juniors and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; not offered in 1944-1945.)

59, 60. Social and Cultural History of New England. From the settlements to the present. The material and intellectual aspects peculiar to New England's social and cultural life. The viewpoint is partly that of the antiquarian. Source materials figure considerably. It is assumed that the student is familiar with the general history of New England. Mr. Marston. For Juniors and Seniors. 3 lec. or rec.; 3 cr. (Given in alternate years; offered in 1944-1945.)

65, 66. Recent and Contemporary American History. Developments in American life since the opening of the 20th century. The revolution in our material world and our outward life. The reaction of our individualism in the presence of new world ideologies, and the extent of its modification. A close-range observation of social history in the making. Current newspapers and periodicals will be used. Mr. Babcock. For Juniors and Seniors. 3 lec., rec., or discussions; 3 cr.

GROUP IV. HISTORY FROM AN EDUCATIONAL OR PHILOSOPHICAL VIEWPOINT

55, 56. The Philosophy of History. (1) Some of the less obvious aspects of chronology, periodizing as a means of interpreting history, etc. (2) Culture-history, including the historical side of everyday things. (3) The philosophy-of-history proper, or a study of some of the ways in which thoughtful persons have interpreted the nature of history as a whole. Mr. Babcock. For Juniors and Seniors. 3 lec. or discussions; 3 cr. (Given in alternate years; offered in 1944-1945.)

67, 68. HISTORICAL GEOGRAPHY AND BIOGRAPHY. Schools of thought in history are likely to be either environmental or personal; that is, either deterministic or voluntaristic. This course devotes a semester to each way of thinking, reviewed in the light of concrete data. New applications and methods of study and teaching will receive some attention; for example, the use of maps, and map-making for classrooms and the study of representative, as distinguished from great, persons. Mr. Babcock. For Juniors and Seniors. 3 lec. or discussions; 3 cr. (Given in alternate years; not offered in 1944-1945.)

For courses primarily for Graduate students, see the Catalogue of the Graduate School.

HISTORY-EDUCATION (HIST-ED) 91. PROBLEMS IN THE TEACHING OF HIGH SCHOOL HISTORY. The purposes and objectives of teaching high school history; selection and organization of teaching material; teaching and testing techniques which may be advantageously used in teaching high school history and the other social studies; experiments in studying and teaching history. Mr. Berg. Open to students who have satisfactorily completed Hist. 7-8, Govt. 1, 2, Econ. 1-2 or 3, 4, and Ed. 61. 3 class meetings; 3 cr. For teachers primarily in service, one 2-hour rec.; 2 cr.

HISTORY-EDUCATION (HIST-ED) 92. PRACTICUM IN THE TEACHING OF HISTORY IN HIGH SCHOOLS. Open only to students who have done cadet teaching in History or the Social Sciences. 3 cr.

The Departments of Economics, Agricultural Economics, Government, History, Mathematics, and Sociology offer jointly a course designed to meet the needs of those Social Science students who are interested primarily in Statistics as applied to the Social Science Fields. See Social Science 51, page 268.

HOME ECONOMICS

HELEN F. MCLAUGHLIN, *Professor;* LUCILLE PEPOON, *Assistant Professor;* VERNA MOULTON, *Assistant Professor;* TATIANA LEVCOWICH, *Instructor;* JANINA CZAJKOWSKI, *Instructor.*

1, 2. HOMEMAKING. The various phases of homemaking and the vocational opportunities open to women. Mrs. McLaughlin. Exploratory course; 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements in Home Economics.*

Note: Further work than is offered in any of the following courses may be taken under H.Ec. 47, (49), Projects in Home Economics.

CLOTHING AND TEXTILES

3. Clothing Selection. The selection of suitable and becoming clothing; color; good grooming; clothing budgets; care and repair of clothing. Miss Moulton. 3 lec. or rec.; 3 cr.

4. Textiles. A study of textiles with emphasis on their characteristics, utilization, care, and purchase from the point of view of the consumer. Miss Moulton. 2 lec. or rec.; 1 lab.; 3 cr.

5-6. Clothing Construction. Application of the principles of design and development of technique in garment construction including cotton and woolen problems, a renovation problem; children's clothes; and a draping problem on the dress form. Miss Moulton. 2 labs.; 2 cr.

Historic Costume and Design. (See Arts 43-44.)

61, (62), (61), 62. Advanced Problems in Clothing Construction. A tailored suit or coat and one or more individual problems involving advanced techniques in the construction and renovation of clothing. Miss Moulton. Permission of instructor. 2 labs.; 2-3 cr.

FOOD AND NUTRITION

15-16. Foods. The composition, selection, preservation, and preparation aspects of foods; meal planning and table service. Miss Levcowich. 1 lec.; 2 labs.; 3 cr.

33. Home Management. Management of time, energy, and money in relationship to home living; skills and techniques for care of the home. Miss Pepoon. Not open to Freshmen. 2 lec. or rec.; 1 lab.; 3 cr.

34. Consumer Problems. Problems of the consumer as related to market practices, quality and quantity standards, evaluation of advertising, and selection of goods and services for the home. Miss Pepoon. 3 lec. or rec.; 3 cr.

35, (35). Home Management House. Participation in homemaking; planning, buying, and preparing meals; care of the house; efficient work habits; problems of management. Residence in the home management house. Miss Pepoon. Half semester. Permission of the Head of the Department. 3 cr.

37. Home Nursing. Various aspects of maintaining good health in the home are presented with special emphasis on the accepted methods involved in the home care of the sick. Problems as related to disease; community health organization and special sick-room techniques. Prereq.: None. 1 lec.-rec.; 1 lab.; 2 cr. Required of H.Ec. Teach. Prep. Jrs.; elective for other students.

38. Household Mechanics. The application of engineering principles and practices to the problem of making the home more comfortable, convenient, and liveable is covered in theory and demonstration. Electrical appliances, water supply, sewage disposal, gas, telephone, and fuels are considered. The selection, care, and maintenance of cooking, heating, refrigeration, cleaning, and other equipment are studied. Mr. Foulkrod. 2 lec.; 1 lab.; 3 cr.

83. Home and Family Life. A study of the problems confronting the home today in everyday living, such as relationships between family members, desirable home atmosphere, and worthy home membership. Mrs. McLaughlin. 3 lec. or rec.; 3 cr.

21, 22. Elementary Meal Service. Planning, preparing, and serving simple, nutritious, and attractive meals. Miss Levcowich. For students not majoring in H.Ec. 1 lec.; 1 lab.; 2 cr.

71, 72. Advanced Problems in Foods. Selected problems in one or more phases of food study, such as: experimental cookery; advanced food preparation; advanced meal planning and service; advanced food preservation. Miss Levcowich. Prereq.: H.Ec. 15-16. 1 lec.; 1 lab.; 2 cr.

74. Dietetics. Application of the principles of human nutrition to varying physiological, social, and economic conditions. Miss Czajkowski. 2 lec.; 1 lab.; 3 cr.

75. Diet Therapy. Study of special diets used for the prevention and treatment of various diseases. Readings in the current literature of nutrition. Mrs. McLaughlin. Prereq.: H.Ec. 74. 3 rec.; 3 cr.

CHILD DEVELOPMENT

25-26. Child Development. The normal development and care of the infant and child; physical, mental, social, and emotional development and guidance. Miss Pepoon. Prereq. or parallel requirement: Psych. 11 or 51. 2 lec. or discussions; laboratory work with children in the play group. 3 cr.

81, (82), (81), 82. Projects in Child Development. Principles of child guidance. Nursery school procedures and practice. Discussion and supplementary projects based upon the special interests of the students. Prereq.: H.Ec. 25-26. 1 lec. or discussion; laboratory with children in the play group. 2-3 cr.

HOME MANAGEMENT

31. Home Building. The principles involved in selecting a home best fitted to the needs, desires, and activities of the whole family

group are considered. A study of existing homes and published plans is supplemented by practice in original design, through simple sketch plans. Mr. Foulkrod. 2 lec.; 1 lab.; 3 cr.

32. Home Furnishing. Decorating and furnishing of a modern home. Miss Moulton. 3 lec.; rec. or conferences; 3 cr.

INSTITUTIONAL MANAGEMENT

41. Institutional Management. The organization and management of institutional food service; personnel policies, plant sanitation, records, menu planning, food buying, production, and merchandising. Field trips to study organization and management. Miss Czajkowski. 3 lec. or rec.; 3 cr.

43-44. Institutional Practice. Practical experience in the kitchens and serving rooms of the University Commons. Miss Czajkowski. 2 lab.; 2 cr.

45. Furniture, Equipment, and Textiles. Problems in the purchase, care, and use of equipment, furniture, and textiles for institutions. Miss Czajkowski. 3 rec.; 3 cr. (Formerly H.Ec. 46.)

48. Field Work in Institutional Practice and Extension. Six to ten weeks' residence and practical experience in an approved hospital or other institution, or with extension groups, supplemented by readings and conferences. Mrs. McLaughlin and Extension staff. 3-6 cr.

49-50. Quantity Cookery. Principles, methods. and standards of food planning, preparations, and serving as applied to institutional food service. Laboratory work in the quantity cookery laboratory at the University Commons. Miss Czajkowski. Prereq.: H.Ec. 15-16. 2 lab.; 2 cr.

HOME ECONOMICS EDUCATION

47, (47). Projects in Home Economics. Opportunities for students to work out projects supplementary to or in advance of other courses. Not more than 9 credits may be taken in this course. Members of Home Economics staff. Conferences and assignments; reference readings; 1-3 cr.

Home Economics-Education (he-ed) 91. Problems in the Teaching of High School Home Economics. Mrs. McLaughlin. 3 lec. or rec.; 3 cr.

Home Economics-Education (he-ed) 94. Supervised Teaching in High School Home Economics. Mrs. McLaughlin. Eleven weeks supervised teaching, 11 cr.

HORTICULTURE

HOME ECONOMICS-EDUCATION (HE-ED) 96. SEMINAR IN THE TEACHING OF HIGH SCHOOL HOME ECONOMICS. Mrs. McLaughlin. Prereq.: HE-ED 94. Four weeks' intensive work following period of supervised teaching. 3 cr.

HOME ECONOMICS-EDUCATION (HE-ED) 98. PRINCIPLES AND TECHNIQUES OF DEMONSTRATIONS. Fundamentals of demonstration methods. Experience in conducting demonstrations in foods, clothing, home management, equipment, and other fields. Home Economics staff. 1 conference; 1-2 lab.; 2-3 cr.

For courses primarily for Graduate Students, see the Catalogue of the Graduate School, under the Department of Education.

HORTICULTURE

ALBERT F. YEAGER, *Professor;* J. RAYMOND HEPLER, *Associate Professor;* L. PHELPS LATIMER, *Assistant Professor;* WILLIAM W. SMITH, *Assistant Professor;* W. D. HOLLEY, *Assistant Professor.*

2. PLANT PROPAGATION. Discussion and practice including soil, sand, and peat media; seed treatments, seeding, watering, light, feeding, and temperatures; leaf, softwood and hardwood cuttings; hormone treatments; budding, root, top and bridge grafting; seedbed and nursery practice. Mr. Yeager, Mr. Holley, and Mr. Smith. 1 lec.; 1 lab.; 2 cr.

13. JUDGING IN HORTICULTURE. Judging of fruits, vegetables, and flowers, and of fruit and vegetable products. Recommended for students who expect to be county agricultural agents or teachers, and for Hotel Management and Home Economics majors. Mr. Latimer, Mr. Hepler, Mr. Holley, and Mr. Yeager. 2 lab.; 2 cr.

14. ELEMENTARY VEGETABLE GARDENING. Garden soils; testing and planting seeds, selection of varieties with reference to New Hampshire conditions; construction and management of hotbeds and cold frames; fertilization, cultivation, and irrigation of the garden. Mr. Hepler. 2 lec.; 1 lab.; 3 cr.

27. LANDSCAPE MATERIALS. The identification of trees, shrubs, vines, and herbaceous plants and their use in landscape planting. Practice in pruning, transplanting, shipping, and other nursery operations. Mr. Holley. 2 lec.; 1 lab.; 3 cr. (Given in alternate years; offered in 1945-1946.)

28. LANDSCAPE GARDENING. The design and maintenance of small properties with emphasis on the principles of arrangement and the use of plant materials in the beautification of home surroundings. Mr. Holley. 2 lec.; 1 lab.; 3 cr. (Given in alternate years; offered in 1945-1946.)

38. Floral Arrangement. Floral design and the use of flowers in the home; practice in floral arrangement. A laboratory fee of $3 is charged. Mr. Holley. Prereq.: Permission of the instructor. 1 lab.; 1 cr.

39. Greenhouse Management. Modern methods of greenhouse management including soils, watering, costs of production and marketing, and fundamentals of plant behavior under glass. Varieties, culture, and enemies of greenhouse plants. Practical work in propagating, potting, and other greenhouse operations. Mr. Holley. 2 lec.; 1 lab.; 3 cr. (Given in alternate years; not offered in 1945-1946. Students may elect additional work on greenhouse crops under Hort. 51 and 52.)

40. Floriculture. The fundamentals underlying the growing of plants including garden soils, plant materials, and the arrangement of these materials in beautifying the home. Practice work in propagating plants, sowing seeds, transplanting, and other garden work. Mr. Holley. 2 lec.; 1 lab.; 3 cr.

44. Horticultural Practice. Seasonal practice work in fruit production, ornamentals, or vegetable production. Mr. Yeager and staff. Prereq.: Hort. 14 and 28 or 40. 1 to 5 cr.

48, 49. Beekeeping. Habits of honey bees, assembling and use of hives, practice in handling bees. Production of commercial crops of comb and extracted honey, care and protection of bees during fall and winter, extraction of honey and preparation of comb honey and wax. Mr. Hepler. 1 lec.; 1 lab.; 2 cr.

51, 52. Advanced Horticulture. Subject matter in any phase of horticulture (with laboratory practice if desirable) to meet the needs of special students or groups of students. Horticultural staff. Prereq.: Permission to register from the Head of the Department. 1 to 3 cr.

53. Pomology: Orchard Fruits. Fundamental principles and experimental data and their applications to orchard problems including the establishment of orchards, soil management, water and fertilizer requirements, mineral deficiencies, training and pruning, fruit bud formation, pollination and fruit setting, thinning and winter injury. Mr. Latimer. Prereq.: Bot. 1. 3 lec.; 3 cr. (Given in alternate years; offered in 1945-1946.)

54. Pomology: Small Fruit Culture. The culture and economic uses of the strawberry, raspberry, blackberry, blueberry, and grape. Each fruit is considered with relation to its history, propagation, planting, pruning, harvesting, marketink, insects, and diseases, and domestic uses. Mr. Latimer. 2 lec.; 2 cr. (Given in alternate years; offered in 1945-1946.)

55. Systematic Survey of Fruits. Important species of fruits and nuts of temperate regions and their botanical relationships. The history, distribution, and merits of each species, and the horticultural varieties developed from it. Mr. Latimer. Prereq.: Bot. 1. 2 lec.; 2 cr. (Given in alternate years; not offered in 1945-1946.)

57. Systematic Survey of Vegetables. Important species of vegetables and culinary herbs and their botanical relationships. The history, distribution, and commercial merit of each species and the horticultural varieties developed from it. Mr. Hepler. 2 lec.; 2 cr. (Given in alternate years; offered in 1945-46.)

61. Harvesting, Storing, and Marketing. The handling of vegetable and fruit crops, technicalities of grading, agencies used and problems in storing, transporting, and mechandising the crop, with laboratory practice in packing-house work. 2 lec.; 1 lab.; 3 cr.

65. Commercial Vegetable Production. The management of commercial vegetable gardens. Important vegetables and their culture including a comprehensive review of recent experimental work. Mr. Hepler. Prereq.: Hort. 14. 2 lec.; 1 lab.; 3 cr. (Given in alternate years; not offered in 1945-1946.)

91, 92. Horticulture Seminar. A review of recent Horticultural literature and methods of investigational work. Students required to prepare and present papers on selected topics. Horticultural staff. For Seniors in Hort. Others by permission of Department Head. 1 lec.; 1 cr.

94. Plant Breeding. Application of the principles of genetics to practical plant breeding. Hybridization, chemical treatments, and selection as means of producing and improving varieties. Mr. Yeager. Prereq.: Zool. 49. 2 lec.; 1 lab.; 3 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

HOSPITAL DIETETICS

(See page 173.)

HOTEL ADMINISTRATION

Raymond R. Starke, *Professor.*

The courses listed below are given primarily for students in Hotel Administration. Other students are invited to elect these courses with the permission of the instructor provided they have the prerequisites.

*1. Orientation. Some time is utilized to accustom the students to methods used in local University work, in a treatment of the history and organization of the University, followed by the history of hospitality the world over, particularly the development of the hotel business in the United States. Required of Freshmen in Hotel Administration. 2 lec.; 1 cr.

5. Hotel Operation. The problems of the hotel manager form the basis of work in this course. Some sections studied are the organization, personnel and work of departments, front office procedure, control of income and expenditure and overhead expenses incurred in establishing a hotel property. The point of view of the resort hotel man is constantly compared with that of the metropolitan operator. Acc. 9-10 should precede or accompany this course. 3 lec. or rec.; 3 cr.

6. Hotel Public Relations. The relations of the hotel with the public, either as prospective or present guests; sales promotion media and advertising. For Juniors and Seniors. 2 lec. or rec.; 2 cr.

8. Front Office Procedure. The layout of the hotel office, the members of the staff and their relation to other staffs of the hotel. Equipment, and procedures of keeping guest accounts. For Juniors and Seniors with permission of the instructor. 1 class discussion; 1 cr.

12. Financial Statements. A study of financial reports and statements directed towards costs and percentages in hotel operations. The work is based on the Uniform System of Accounts for hotels as recommended by the American Hotel Association. Prereq.: Acc. 10 or Hotel Admin. 5. 2 lec. or rec.; 2 cr.

21, 22. Introductory Hotel Engineering. To give an engineering background with additional practical information, this course supplies much of the material of an elementary Physics course with an added study of practical hotel problems, for example, common laundry practices and kitchen planning. Laboratory work will supplement the recitations and three or more inspection trips are made during the year. 3 lec. or rec.; 1 lab.; 4 cr.

23. Stewarding. The management of the steward's department of a hotel, comprising the purchasing, storage, and issuing of foods, beverages, and supplies with the proper records to keep in connection therewith. This course will be given by an experienced steward. Prereq.: none. 2 lec. (One afternoon on alternate weeks); 1 cr.

40, 42, 44, 46. Lectures on Hotel Management. Delivered by representative and well-known men in the hotel business and allied fields.

*Not to be included in the courses to meet the requirements of 27 semester credits in prescribed courses with major grades.

LANGUAGES

INSTITUTIONAL MANAGEMENT

(See page 116.)

JOURNALISM

(See PUBLICITY, page 266.)

LANGUAGES

CLIFFORD S. PARKER, *Professor;* JOHN S. WALSH, *Associate Professor;* PAUL L. GRIGAUT,* *Associate Professor;* JULIO BERZUNZA, *Assistant Professor;* JOHN A. FLOYD,* *Assistant Professor;* JAMES T. SCHOOLCRAFT, *Assistant Professor;* ALBERT F. BUFFINGTON, *Assistant Professor.*

GENERAL LANGUAGE AND LITERATURE

LANGUAGES 1, 2. SURVEY OF GREEK AND ROMAN LITERATURE. The masterpieces of Greek and Roman literature in translations. A cultural course for the general student unprepared to read the original languages but desiring acquaintance with this important subject matter. A background course for majors in such subjects as English, History, Latin, or one of the modern languages and literatures. Continued in Languages 51, 52. 3 rec.; 3 cr.

LANGUAGES 51, 52. SURVEY OF MODERN EUROPEAN LITERATURE. The Renaissance, classicism, romanticism, and realism studied as international movements. Stress will be laid, not upon the details of each national literature, but upon the interdependence of the literatures of the various countries. Conducted in English. Prereq.: Junior, Senior, or Graduate standing. 3 rec.; 3 cr.

LANGUAGES 73-74. GENERAL INTRODUCTION TO THE SCIENCE OF LANGUAGE. Origins of language; languages of the world; phonology; morphology; syntax; semantics; etymology; comparative philology; dialect divergence; linguistic change; race, culture, and language; psychology of language. Open to all students. 3 lec.; 3 cr.

LANGUAGES-EDUCATION (LANG-ED) 91. PROBLEMS IN THE TEACHING OF MODERN LANGUAGES IN THE HIGH SCHOOL. The special objectives, methods, and devices of modern language teaching in high schools. For prospective teachers of French, German, and Spanish. Prereq.: Education 61 with grade of C or better and one of the following courses: French 6, German 4, Spanish 4. 3 rec.; 3 cr.

FRENCH

(Freshmen will be assigned to French 1, French 3, or French 5, on the basis of their performance in the French placement examination in Freshman Week.)

*On leave 1944-45.

1-2. Elementary French. Elements of French grammar, reading of simple prose, oral practice. 3 rec.; 3 cr. *Cannot be counted for major credit.*

3-4. Intermediate French. Review of most important rules of grammar; reading of a large amount of diversified French prose, partly in class, partly outside; oral practice. Principal objectives: (1) to give a solid foundation for further work in French; (2) to increase the facility and accuracy of students' reading and oral knowledge of French. Prereq.: French 2 or its equivalent. 3 rec.; 3 cr.

5-6. French Civilization and Literature. Principal objectives: (1) to study the history of French culture; (2) to increase students' ability to use and understand the French language; (3) to prepare for the study of French language and literature in more advanced courses; (4) to enable students to understand some of the forces which may influence the reconstruction of France. Prereq.: French 4. 3 rec.; 3 cr.

11-12. French Literature of the Seventeenth and Eighteenth Centuries. (Formerly 11-12, French Classicism.) French literature from 1600 to the French Revolution. Topics studied include: the rise and development of the classical ideal; the masterpieces of the great writers of the age of Louis XIV; the decline and disintegration of classicism in the 18th century; the work and influence of Voltaire and Rousseau; the writers who represent the beginnings of romanticism. Prereq.: French 6. 3 rec.; 3 cr.

13-14. French Composition and Conversation. The use of written and spoken French taught by careful attention to pronunciation, composition, and grammar. Especially valuable for students who wish to teach French. Prereq.: French 4 with grade of C or better; or French 6. 3 rec.; 3 cr.

53. French Romanticism and Realism. The period from 1800 to approximately 1870; Chateaubriand and Mme. de Staël; the Romantic School (Lamartine, Vigny, Victor Hugo, Dumas, Musset, etc.); the historical novel and drama; the intermingling of romanticism and realism in the work of Balzac; realism in the novel, the drama, and poetry (Flaubert, Augier, Dumas fils, Leconte de Lisle, etc.). Prereq.: French 6. 3 rec.; 3 cr. (Will not be offered in 1945-1946.)

54. French Literature from 1870 to the Present. The work of Zola, Maupassant, Daudet, Bourget, Verlaine, Becque, and other outstanding writers of the last part of the 19th century; the various trends, schools, and individual writers of the 20th century. Prereq.: French 53. 3 rec.; 3 cr. (Will not be offered in 1945-1946.)

61-62. FRENCH GRAMMAR. A systematic study of French grammar in all its phases from elementary to highly advanced. Intended primarily for those preparing to teach French. Prereq.: French 6. 3 rec.; 3 cr.

63-64. FRENCH LITERATURE AND CIVILIZATION OF THE MIDDLE AGES AND THE RENAISSANCE. The various forms and masterpieces of French literature from the beginning to the year 1600, with consideration of their historical and social background. Recommended for Seniors and Graduate students. Prereq.: French 12 or 54. 2 lec.; 2 cr.

92. ORAL FRENCH. Accuracy and facility in the use of oral French will be attempted through the study of phonetics and the use of dictation, conversation, the phonograph, the dictaphone, and other devices. Prereq.: French 14 or 62. 2 rec.. 2 cr.

GERMAN

1-2. ELEMENTARY GERMAN. Drill in reading and speaking German. In some sections the grammar-reading method will be used, in others an oral method, making use of phonograph records. In the latter, the usual preparation for recitations will be partially replaced by drill sessions. 3 rec. in reading sections, 5 rec. in oral sections; 3 cr. *This course cannot be used to satisfy major requirements.*

3-4. INTERMEDIATE GERMAN. Designed to increase students' facility in speaking and reading German. The conversational material will comprise idiomatic and colloquial German expressions. The reading material, which will include modern texts of varied content and progressive difficulty, will make the course of value for those who wish to use German in other academic fields, or who intend to take courses in German literature. Prereq.: German 2 or two years of high school German. 3 rec.; 3 cr.

5-6. SCIENTIFIC GERMAN. For Pre-medical students and majors in Physics, Chemistry, Geology, Forestry, Agriculture, and Engineering. To facilitate the reading of German scientific treatises. Prereq.: German 2 or two years of high school German. 3 rec.; 3 cr.

11-12. GERMAN LITERATURE FROM 1750 TO THE END OF THE CLASSICAL PERIOD. The development of German literature during the epoch of the *Aufklärung* and the *Sturm und Drang* to the end of the classical period. Lessing, Goethe, and Schiller chiefly studied. Prereq.: German 4 or the equivalent. 3 class hours; 3 cr. (Not offered in 1945-1946.)

13-14. GERMAN CONVERSATION AND COMPOSITION. For students who desire a fluent practical command of spoken and written German. Class discussions conducted in German. Opportunity for informal conversation, for discussion in German of topics prepared in advance,

and for free German composition. Prereq.: German 2. 3 rec.; 3 cr. (Not offered in 1945-1946.)

53-54. German Romanticism. The revival of the historical and imaginative Middle Ages in the first half of the 19th century. Prereq.: Two years of college German or the equivalent. 3 class hours; 3 cr. (Not offered in 1945-1946.)

57-58. Modern German Literature. The development of German literature from 1832 to the present, with special emphasis on the novel and drama. Authors considered are Grillparzer, Hebbel, Ludwig, Keller, Meyer, Wagner, Hauptmann, Sudermann, Thomas Mann, Rilke, George, and Schnitzler. Prereq.: Two years of college German or the equivalent. 3 class hours; 3 cr. (Offered in 1945-1946.)

63-64. History of German Literature. Its development from pagan to modern times. Representative works read in and out of class. The history of German civilization is taken up parallel with the history of literature. Prereq.: Two years of College German or the equivalent. 3 class hours; 3 cr. (Not offered in 1945-1946.)

GREEK

1-2. Elementary Greek. Grammar, composition, translation. Prereq.: Permission of the instructor. 3 rec.; 3 cr. (Not offered in 1945-1946.)

3-4. Translation of several books of Homer's *Iliad;* work in grammar and word-derivations. Prereq.: Greek 2. 3 rec.; 3 cr. (Given every third year; not offered in 1945-1946.)

LATIN

1-2. Elementary Latin. Elements of grammar, reading of simple prose. Study of the changes in meaning and form of English and Romance language derivatives from Latin. 3 rec.; 3 cr. (Not offered in 1945-1946.) *This course cannot be used to satisfy major requirements.*

3-4. Intermediate Latin. A review of Latin grammar and vocabulary, followed by readings in poetry and prose. Prereq.: Latin 2 or two years of high school Latin. 3 rec.; 3 cr. (Not offered in 1945-1946.)

5-6. Latin Poetry. Selected poems of Catullus, Ovid, Phaedrus, Martial, and the odes and epodes of Horace. Translations, lectures, and study of Latin influence on English poetry. Prereq.: Latin 4, or three years of high school Latin. 3 rec.; 3 cr.

7-8. Latin Prose and Comedy. The plays of Plautus and Terence, Livy's History (Books I and II), and Pliny's Letters, studied for their

value as mirrors of the life and history of Rome as well as for their literary value. Prereq.: Latin 4. 3 rec.; 3 cr. (Not offered in 1945-1946.)

9-10. Masterpieces of Latin Literature. Intensive study of selections from such prose writers as Plautus, Livy, Pliny, Caesar, and Cicero, and of such poets at Catullus, Horace, and Virgil. Rapid reading of other works by the same and additional authors. Lectures on Roman civilization and its contributions to the general culture of the world. 3 rec.; 3 cr. (Not offered in 1945-1946.)

51-52. Philosophy and Satire. Philosophy, religion, natural science, and social theories of the Romans, as exemplified in the writings of Horace, Martial, and Cicero. Prereq.: Latin 6. 3 rec.; 3 cr. (Not offered in 1945-1946.)

55-56. Literature and History. A comprehensive view of Latin literature of the Golden Age, particularly the works of Caesar, Cicero, and Virgil. Literary value and historical content will be studied as well as such background of the history of Rome during the period as is necessary for the student or teacher of the classics. Prereq.: Latin 8. 3 rec.; 3 cr. (Not offered in 1945-1946.)

Latin-Education (lat-ed) 91-92. Problems in the Teaching of High School Latin. The study of methods, objectives, and problems of teaching high school Latin will be carried on throughout the year concurrently with work in composition and conversation. Prereq.: Latin 6. 3 rec.; 3 cr.

SPANISH

1-2. Elementary Spanish. Elements of Spanish grammar, reading of simple prose, oral practice, dictation. 3 rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

3-4. Modern Spanish Prose and Poetry. Review of grammar, reading, composition, and conversation. A large part of the reading will be in the field of Latin-American literature and civilization. Prereq.: Spanish 2 or its equivalent. Freshmen who pass a reading test in Spanish may take this course. 3 rec.; 3 cr.

9. The Drama of the Siglo D'Oro in Spain. Representative plays of Lope de Vega, Tirso de Molina, Guillen de Castro, Calderon, and other dramatists of the Golden Age of Spanish Literature. Prereq.: Spanish 4. 3 rec.; 3 cr.

10. The Picaresque Novel and the Works of Cervantes. *Celestina, Lazarillo de Tormes, Don Quijote,* and other novels of the 16th and 17th centuries. Lectures on Spanish civilization. Prereq.: Spanish 4. 3 rec.; 3 cr.

13-14. Spanish Composition and Conversation. The use of written and spoken Spanish taught by careful attention to pronunciation, grammar, and composition. While there will be some reading as a basis for conversation, the main stress will be laid on oral practice. Prereq.: Spanish 4 or grade of B in Spanish 2. 3 rec.; 3 cr.

55-56. Latin-American Literature. Selected writers of Latin-American countries who illustrate literature and social conditions in Central and South America. Certain works will be discussed in class while others will be assigned for collateral reading. Prereq.: Spanish 4. 3 rec.; 3 cr. (Not offered in 1945-1946.)

57-58. Latin-American Authors. A careful study of six important writers from three countries (two authors from each country) in each semester will give to students some insight into the literature and social conditions of Latin-America. Certain works will be discussed in class while others will be assigned for collateral reading. This course will not repeat the content of Spanish 55-56, with which it will alternate in successive years. Prereq.: Spanish 4. 3 rec.; 3 cr. (Offered in 1945-1946.)

63-64. Spanish Literature of the Middle Ages. Masterpieces and writers of Spanish literature from the beginnings to 1500. Their historical background. Conducted as far as possible in Spanish. Prereq.: 3 years of college Spanish or equivalent; 3 lec.; 3 cr.

LATIN

(See Languages, page 26.)

LAW

(See Pre-Law, page 108.)

MATHEMATICS

Hermon L. Slobin, *Professor;* George N. Bauer, *Professor Emeritus;* Marvin R. Solt, *Associate Professor;* Daniel C. Lewis,* *Associate Professor;* Horace A. Giddings, *Associate Professor;* Miltiades S. Demos,* *Assistant Professor;* William L. Kichline, *Assistant Professor;* Dawson G. Fulton,* *Assistant Professor;* Donald M. Perkins, *Assistant Professor.*

1-2. General Mathematics. The elements of Algebra and Trigonometry. Prereq.: One entrance unit of high school math. 3 rec.; 3 cr.

3-4. The Elements of Analytical Geometry and Calculus. A continuation of Mathematics 1-2. Prereq.: Math. 1-2. 3 rec.; 3 cr.

*On leave of absence.

5. (5), 6. First Year Mathematics. Algebra, Trigonometry, and Analytic Geometry. Prereq.: See requirements of Math. for admission to College of Technology. 6 rec.; 5 cr.

7, (7)-8, (8). Calculus. Applications of differentiation and integration; special methods of integration; the definite integral, applications of the definite integral to geometry, physics, and mechanics; introduction to sequence and series. Prereq. for 7: Math. 4 or 6. Prereq. for 8: Math. 7. 3 rec.; 3 cr.

10. Astronomy. A brief descriptive course. The earth as an astronomical body; the sun and the solar system; the constellations; the stars. Mr. Solt. 3 rec.; 3 cr. Does not count for major credit in Math.

20. Solid Geometry. Elements of Solid Geometry. Mr. Perkins. Prereq.: High school Algebra and Plane Geometry. 2 rec.; 2 cr.

33. Commercial Algebra. Preparation for, and introduction to, mathematics of finance; use of calculating machines. This course is designed to prepare students for Mathematics 34 and 61. Mr. Kichline. Prereq.: Two years of Math. in high school including at least one year of Algebra. 3 rec.; 3 cr.

34. Mathematics of Finance. Simple and compound interest, discount, annuities, depreciation, evaluation of securities, building and loan associations, and elements of life insurance. Mr. Kichline. Prereq.: Either Math. 2, 5, or 33. 3 rec.; 3 cr.

51. Advanced Calculus, Differential Equations, and Their Application to Engineering Problems. Prereq.: Math. 8. 3 rec.; 3 cr.

52. A Continuation of Mathematics 51. 1 rec.; 1 cr.

54. Vector Analysis. Vector and Scalar Algebra and Geometry, differentiation and differential operators, applications to electrical theory and to mechanics, dynamics, and hydro-dynamics. Prereq.: Math. 8. 2 rec.; 2 cr.

55-56. Advanced Plane and Solid Analytical Geometry. Prereq.: Math 8. 3 rec.; 3 cr.

57. The History of Mathematics. Designed especially for those preparing to teach Mathematics in high school. An historical background and an appreciation of the development of various fields of Mathematics. Prereq.: Math. 8 or 4. 3 rec.; 3 cr.

61-62. Introduction to Statistical Methods. Graphical representation of statistical data, frequency distribution, averages, measures of

dispersion, index numbers, linear correlation, time series. Mr. Kichline. Prereq.: One year of college Math. or its equivalent. 3 rec.; 3 cr.

63-64. Economic and Social Statistics. A continuation of 61-62, including a more thorough study of correlation, multiple and partial correlation, time series including trend and seasonal variation and cycles, sampling, variance, tests of significance. Material selected to meet the needs of advanced students and to throw light on statistical research methods. Mr. Kichline. Prereq.: Math. 61-62. 3 rec.; 3 cr.

Note: The Departments of Economics, Agricultural Economics, Government, History, Mathematics, and Sociology offer jointly a course designed to meet the needs of those Social Science students who are interested primarily in statistics as applied to the Social Science fields. This course is listed as Social Statistics 51. (See page 268.)

Students majoring in Mathematics and those interested in Mathematical Statistics should take Math. 61 and 62.

71-72. Advanced Algebra. Matrix theory, including elementary divisors and invariant factors; linear transformations; quadratic bilinear, and Hermitian forms; invariants and covariants with geometric applications; and topics from the theory of equations, including symmetric functions, and groups of substitutions. Prereq.: Math. 8. 3 rec.; 3 cr.

Mathematics-Education (math-ed) 91. Problems in the Teaching of High School Mathematics. The aims and values of secondary school mathematics, the recommendations of the national committee on mathematics requirements, and the State Board requirements; also, the subject matter and the sequence in which it should be presented in both junior and senior high schools, and the various techniques used in teaching secondary school mathematics. Errors. testing program, and remedial teaching. Lectures, assigned readings, and discussions. Mr. Perkins. Prereq.: Math. 8, or 34 and 7. Students preparing to teach mathematics in high school should register for this course. 3 rec.; 3 cr.

MECHANICAL ENGINEERING

George W. Case,* *Professor;* Edward L. Getchell, *Professor;* E. Howard Stolworthy, *Associate Professor;* Edward T. Donovan,* *Assistant;* Lyman J. Batchelder, *Instructor;* John C. Tonkin,* *Instructor;* Elias O'Connell, *Instructor;* Tenho S. Kauppinen, *Instructor;* Nestor E. Toran, *Instructor.*

*On leave of absence.

MECHANICAL ENGINEERING

1-2. Engineering Drawing. Fundamentals, including freehand lettering, use of instruments, isometric drawing, and the solution of problems by the principles of descriptive geometry. Messrs. Stolworthy and Kauppinen. 2 lab.; 2 cr.

(1) Mechanical Drawing. Lettering, plotting, and interpretation of charts and graphs, use of instruments. Projections of machinery and simple construction problems. 2 lab.; 2 cr.

3. Machine Drawing. Application of the principles of engineering drawing to machine parts. Various pictorial systems as an aid in sketching. Reproduction methods and modern drafting room organizations. Commercial drafting room methods in sketching machine parts, drawing from sketches, and making tracings. Mr. Kauppinen. Prereq.: M.E. 1. 2 lab.; 2 cr.

4. Kinematics. Motion in machine construction; belts and other flexible connectors; gear and gear teeth; wheels in trains; epicyclic trains, cams; instantaneous centers; linkwork, velocity, and acceleration diagrams. Prereq.: M.E. 1. 2 rec.; 2 lab.; 3 cr.

5-6. Mechanical Laboratory. An over-all view of the more elementary features of Mechanical Engineering. Introduction of the equipment in the mechanical laboratory and the University Power Plant, and instruction in its use for studying problems found in Mechanical Engineering practice. Mr. Kauppinen. 1 lab.; 1 cr.

7-8. Mechanics. A study of forces and moment of forces; determination of stresses in trusses and cranes; centroids and center of gravity; rectilinear and curvilinear motion; translation and rotation of bodies; work, power, and energy. The application of mechanics to the determination of stress and strain in rigid bodies. The study of thin walled cylinders; riveted joints; torsion; transverse loading of beams; deflection in beams of all kinds; study of columns; compound stresses as applied to design of machine parts. Work in the second semester to be paralleled by exercises in the materials laboratory. For Juniors in Mechanical Engineering. Mr. Getchell. Prereq.: Math. 8 and Phys. 7. M.E. 7: 4 rec.; 4 cr. M.E. 8: 3 rec.; 1 lab.; 4 cr.

9-10. Mechanics. Similar to Mechanical Engineering 7-8, but with those portions having application to the design of machine parts omitted. For Junior civil and electrical engineers. Mr. Getchell. Prereq.: Math. 8 and Phys. 7. Mechanical Engineering 9: 3 rec.; 3 cr. M.E. 10: 3 rec.; 1 lab.; 4 cr.

11-12. Mechanics. Principles of mechanics as applied to architectural work. Force systems, moments, equilibrium, trusses, center of gravity and moment of inertia; tension, compression and shear; riveted

joints; strength and deflection of beams; columns; reinforced concrete. Mr. Getchell. Prereq.: Math. 2, Phys. 2. 3 rec.; 3 cr.

13. Elementary Metallurgy. A study of ferrous and non-ferrous metals and alloys used in engineering; a survey of the field of metals with particular attention to structure and properties resulting from alloying and heat treatments. Mr. Getchell. Prereq.: Chem. 4. 2 rec.; 2 cr.

15-16. Machine Design. Application of the principles of mechanics to the design of machine elements with the idea of manufacturing the parts in the most economical manner in the shops. General principles of design will be followed rather than the development of any particular system of procedure. Mr. Getchell. Prereq.: M.E. 8. 1 rec.; 2 lab.; 3 cr.

17. Heat Treatment Laboratory. The study of the heat treatment of steel to obtain the proper strength, hardness, and ductility. Methods of determining the carbon content. Mr. Getchell. Prereq.: M.E. 13. 1 lab.; 1 cr.

21. Heat Power Engineering. The fundamental theory of engineering thermodynamics and its applications to steam power plant and internal combustion equipment. For civil engineers. Mr. Kauppinen. Prereq.: Math. 7 and Phys. 8. 3 rec.; 3 cr.

22. Meteorology. Fundamental physical and thermodynamic laws and general structure of the atmosphere. Air mass theory and a brief study of the technicalities underlying forecasting. Mr. Stolworthy. Prereq.: Phys. 7 or its equivalent. 2 lec.; 1 lab. (two-thirds semester); 2 cr.

23-24. Thermodynamics. The fundamental laws of thermodynamics and their relation to the operation of mechanisms using gases and vapors as their working substances. For mechanical engineers. Prereq.: Math. 7. 3 rec.; 3 cr.

25-26. Heat Power Engineering. The laws of engineering thermodynamics and a consideration of steam power plant and internal combustion engine equipment. For electrical engineers. Mr. Stolworthy. Prereq.: Math. 7. 25: 3 rec.; 3 cr. 26: 3 rec.; 1 lab.; 4 cr.

27. Mechanical Laboratory. The apparatus and methods of testing power plant operation and equipment. Mr. Kauppinen. Parallel requirement: Enrollment in M.E. 25-26. 2 lab.; 2 cr.

29-30. Mechanical Laboratory. Methods of investigating operation and testing of power plant equipment. Mr. Kauppinen. Parallel requirement: Enrollment in M.E. 23. 29: 2 lab.; 2 cr. 30: 1 lab.; 1 cr.

31, (31). Airplanes and Aircraft Engines. A study of airplanes and aircraft engines including servicing and operation. Mr. Stolworthy. No prerequisite. 3 rec.; 3 cr.

37. Aeronautics. Elementary aerodynamics and aircraft construction; the use of the wind tunnel. Mr. Stolworthy. Prereq.: M.E. 8 and C.E. 24. 2 rec.; 1 lab.; 3 cr.

38. Meteorology and Navigation. Synoptic meteorology and the instruments and methods used in navigation of aircraft. Mr. Stolworthy. Prereq.: Phys. 7. 2 rec.; 1 lab.; 3 cr.

39. Heating and Air Conditioning. Heat losses and ventilation requirements of buildings, and the design of specific heating and ventilating systems. Mr. Stolworthy. Prereq.: M.E. 24. 2 lab.; 2 cr.

40. Heating and Air Conditioning. Present methods of heating and ventilating buildings. Mr. Stolworthy. Prereq.: Hotel Admin. 21, 22, or Phys. 2. 1 rec.; 1 lab.; 2 cr.

41. (41). Aviation Ground School. The aeronautical knowledge required of a Private Pilot: civil air regulations, meteorology, navigation, servicing of aircraft. Mr. Stolworthy and assistants. No prerequisite. 3 rec.; 3 cr.

47, 48. Contribution of Engineers and Scientists to the Field of Engineering. The personal characteristics and life work of engineers and scientists. Intended for Engineering students who are disqualified from Military Science and Physical Education; less reading will be required if disqualified only from the former. Mr. Kauppinen. 2 rec.; 2 cr.

49. The Thesis. The thesis embodies research or commercial investigation. Equal emphasis upon composition and accuracy in subject matter. 2 cr. Students passing this course receive a grade of Cr.

52. Mechanical Laboratory. Performance studies of steam engines and turbines, nozzles, and condensers. Application of the laws of thermodynamics to steam power plant equipment. Mr. Kauppinen. Prereq.: M.E. 30. 2 lab.; 2 cr.

53-54. Power Plants. A study of the steam generating power plant dealing with its equipment and costs. For mechanical engineers. Mr. Kauppinen. Prereq.: M.E. 24. M.E. 53: 2 rec.; 2 cr. M.E. 54: 1 rec.; 2 lab.; 3 cr.

55-56. Internal Combustion Engines. Thermodynamics applied to spark ignition and compression ignition engines. Fuels, carburetion,

fuel injection, combustion chambers, lubrication, cooling, and performance. Mr. Stolworthy. Prereq.: M.E. 8 and 24. 2 rec.; 1 lab.; 3 cr.

59, 60, 61, 62. Student Branch of American Society of Mechanical Engineers. An organization of Junior and Senior students. Preparation and presentation of addresses on Mechanical Engineering topics by members, and criticism by instructor of delivery, subject matter and terms used. Required of Juniors and Seniors in M.E. No credit. Students passing this course will receive a grade of Cr.

65. Industrial Management. Principles and methods of industrial management, designed to give students a working knowledge of modern industrial practice, with particular emphasis on the engineering viewpoint. Prereq.: Senior standing. 3 rec.; 3 cr.

66. Engineering Economy. The principles which form the basis of engineering procedures for obtaining the highest ratio of utility to cost. Prereq.: Senior standing. 3 rec.; 3 cr.

71-72. Airplane Design. Airplane layout and stress calculations. Mr. Stolworthy. Prereq.: M.E. 8 and 37 in parallel. Not offered in 1944-1945. 3 rec.; 3 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

AERONAUTICS

The courses in Aeronautics offered in the Department of Mechanical Engineering are grouped below for convenience. M.E. 41, (41) will be of particular interest to students who wish to cover ground work leading to a Private Pilot Certificate, M.E. 31, (31) for the Commercial Pilot Certificate. M.E. 22 is designed for Science or Engineering students interested in Meteorology. M.E. 37 and 38 are offered to Mechanical Engineering students wishing to specialize in Aeronautics.

M.E. 22. Meteorology. (2 cr.)

M.E. 31, (31). Airplanes and Aircraft Engines. (3 cr.)

M.E. 37. Aeronautics. (3 cr.)

M.E. 38. Meteorology and Navigation. (3 cr.)

M.E. 41, (41). Aviation Ground School. (3 cr.)

M.E. 71-72. Airplane Design. (3 cr.)

MECHANICAL ENGINEERING SHOP COURSES

S1, S2, S3. Elementary Shop Practice. For shop work, Freshmen in Technology are divided into three groups meeting simultaneously in Wood Shop, Machine Shop, and Forge Shop. Wood shop: pattern

making and elementary foundry practice. Machine shop: practice in the operation of engine lathes and other machine tools, where precise measurements are important; the machinability of metals in the preparation of test specimens for use in the course in strength of materials. Forge shop: the operations necessary in the forging and welding of iron and steel, in the hardening, tempering, and annealing of steel. These groups interchange at the end of each twelve week period, so that all three subjects are covered during the year. (S1 is Forge Shop, S2 is Machine Shop, S3 is Wood Shop.) Messrs. O'Connell, Toran, and Batchelder. 2 lab.; 1½ cr. per semester. (Each Shop is given 1 cr.)

(S4), S4. Wood Work. Plain cabinet making and finishing; use of stain filler, varnish, shellac, enamels, etc. Mr. Batchelder. 2 lab.; 2 cr.

S5, (S5). Wood Shop. Practice teaching under the supervision of the instructor in Wood Working. Mr. Batchelder. 2 lab.; 2 cr.

S6. Wood Shop. Advanced pattern making or advanced cabinet making. Mr. Batchelder. Prereq.: M.E. S3. 2 lab.; 2 cr.

S12. Forge Shop. The forging of iron and steel. The operations of drawing, welding, upsetting, twisting, splitting, and punching of iron; the hardening, tempering, and annealing of steel; and the case hardening of mild steel as adapted to agricultural work. Mr. O'Connell. 2 lab.; 2 cr.

S13, (S13). Forge Shop. Advanced work in forging, electric, and acetylene welding, tempering, case hardening, tool dressing. Mr. O'Connell. Prereq.: M.E. S1. 2 lab.; 2 cr.

S17, (S17). Machine Shop. Continuation of work given in S2. Mr. Toran. Prereq.: M.E. S2. 2 lab.; 2 cr.

S19-S20. Machine Shop. Advanced work on the lathe, milling machine, planer, shaper, and turret lathe, involving making of tools and special machinery apparatus. Mr. Toran. Prereq.: M.E. S17. 2 lab.; 2 cr.

S21, (S21). Machine Shop. Manufacturing. The appreciation and measurement of skill, production methods, shop management, and time study. Mr. Toran. Prereq.: M.E. S20. 2 lab.; 2 cr.

S23. Farm Shop. A short course in general shop work to suit the individual needs of Agricultural Teacher Preparation Juniors. Adjusted to meet previous experience in shop work. Mr. Toran and Mr. O'Connell. Prereq.: Junior standing in Agriculture Teacher Preparation. 2 lab.; 2 cr.

S29-S30. Individual Projects. Students and other qualified persons may work in the shops on projects of their own selection. It is required that the project receive the approval of the instructor in the particular shop to be used and be supervised by him. Prereq.: M.E. S1, S2, or S3 or its equivalent. Hours and credits to be arranged.

MEDICINE

(See Pre-Medicine, page 119.)

METEOROLOGY

(See page 218.)

MILITARY SCIENCE AND TACTICS

Lt. Col. Joseph F. Daly, *Infantry, Professor;* 1st Lt. John J. McDonough, *Infantry, Assistant Professor;* 1st Lt. Winford E. Labombarde, Jr., *Infantry, Assistant Professor;* M/Sgt. Fred H. Brown, *Assistant Instructor;* M/Sgt. John A. Mann, *Assistant Instructor;* Sgt. Philip J. Whelan, *Assistant Instructor;* John O. Skaret, *Assistant Instructor.*

BASIC COURSE, BRANCH IMMATERIAL

1-2. Military Fundamentals. Organization of the Army; Military Courtesy and Discipline; Personal and Sex Hygiene; Field Sanitation, First Aid. Interior Guard Duty; Dismounted Drill; Clothing and Equipment; Formations and Ceremonies; and Safeguarding Military Information. Required of Freshmen: 2 rec. and 1 drill or 3 rec., according to seasons. 1½ credits.

3-4. Second Year, Basic. Extended Order; Dismounted Drill; Map and Photograph Reading; Weapons; Formations and Ceremonies. Required of Sophomores. 2 rec. and 1 drill or 3 rec., according to seasons. 1½ credits.

MUSIC

Bjornar W. Bergethon, *Associate Professor and Head of Department;* Robert W. Manton, *Professor;* Charles W. Tritt,* *Instructor;* Dorothy E. Kline, *Instructor;* Ruth E. McDaniel, *Instructor;* Margaret Olson, *Assistant.*

MUSICAL ORGANIZATIONS

All the University musical organizations are under the direction of Mr. Bjornar W. Bergethon.

Registration for these courses should be completed during the registration period. These courses cannot be used to satisfy major requirements.

*On leave of absence.

1, (1). University Band. Open to all undergraduates on basis of individual try-outs. The University Band furnishes music for the R.O.T.C. drills, all athletic events at home, and also gives several concerts during the college year. Prereq.: Permission of the instructor. 2 rec.; 1½ cr.

3M, (3M). Men's Glee Club.

3W, (3W). Women's Glee Club. Open to all students interested in singing who fulfill the requirements of a try-out. Prereq.: Permission of the instructor. 2 rec.; 1 cr.

5, (5). University Choir. An advanced choral group devoted to the study and performance of the best classical and modern choral literature. Prereq.: Permission of the instructor. 3 rec.; 1 cr.

7, (7). Ensemble. Small groups of instrumentalists and vocalists organized to provide advanced students experience in such groups as the Madrigal Singers, the string quartet, the men's quartet and the women's sextet. Prereq.: Permission of the instructor. 2 rec.; 1 cr.

9, (9). University Orchestra. Open to all students on basis of individual try-outs. The orchestra gives several concerts during the year and also accompanies the vocal groups and solo instrumentalists on various occasions. Prereq.: Permission of the instructor. 2 rec.; 1 cr.

APPLIED MUSIC

Lessons in Applied Music are based on one-half hour private instruction. One semester hour of credit will be given for one lesson and four hours of practice a week; two semester hours of credit will be given for one lesson and eight hours practice a week; and three semester hours of credit will be given for two lessons and ten hours practice a week. The special semester fee for Applied Music is $25 for one and $50 for two lessons a week. These fees include the use of a practice room for the required preparation. Organ students will be charged an additional fee for the use of the practice organ.

Registration in Applied Music is subject to approval by the Head of the Music Department.

23, (23). Piano. The methods of presentation and the material used vary with the particular needs of each individual pupil. For some students it will be necessary to intensify the technical side of playing, since an inadequate technique obviously is a handicap to a successful expression of musical thought. A number of pieces from the best masters will be studied for the purpose of applying principles of technique as well as gaining for the student an insight into the

possibilities of musical expression. Miss Kline and Miss McDaniel. 1 or 2 lessons; 1-3 cr.

24, (24). Organ. The instruction requires that the pupil have an adequate background of pianistic ability. It includes a fundamental study of the manual touch, pedal technique, the independence of the hands and feet, and elementary and advanced registration. In addition to the normal course of organ study, sight reading, modulation, and improvisation will be emphasized. Miss Kline. 1 or 2 lessons; 1-3 cr. (Not offered in 1945-1946.)

25, (25). Violin. Lessons in violin playing are adjusted to the individual needs of the pupil. A sound technical foundation is imparted with special stress on clear, resonant tone production, accurate intonation, fluency, and velocity. Technical exercises, studies, and solos are selected to correct the pupil's deficiencies and to develop and promote his talents and artistic self-expression. Solos are selected from the best of violin literature and are studied as concert pieces and also as applications of the numerous items of basic technique. Miss Olson. 1 or 2 lessons; 1-3 cr.

26, (26). Voice. Instruction in voice will seek to develop those qualities which are essential for intelligent interpretation, such as correct posture, breathing, pure tone, resonance, clear enunciation. and technical facility. Each voice is given the treatment best suited to its individual needs. A higher ideal than the perfection of mere mechanical skill is sought, namely, a musicianly style of singing and a thorough appreciation of the best works of the masters, both classic and modern. 1 or 2 lessons; 1-3 cr.

27, (27). Violoncello. The course consists of instruction in tuning, bowing, and in positions, as well as a thorough grounding in technical studies, solos, and ensemble literature. Miss Olson. 1 or 2 lessons; 1-3 cr.

28, (28). Woodwind. Courses in the technique and literature of clarinet, flute, oboe, bassoon, and saxophone are given. Miss McDaniel. 1 or 2 lessons; 1-3 cr.

29, (29). Brass. Instruction will be offered for any of the following instruments: trumpet, trombone, French horn, baritone, and tuba. Correct tone production, articulation, and musical interpretation are stressed. Miss Kline. 1 or 2 lessons; 1-3 cr.

THEORY AND COMPOSITION

11, (12)-(11), 12. Elements of Music. Designed to familiarize the student with the elements of music and to give him a general appre-

ciation of pitch, rhythm, and harmony. Sight singing and rhythmic, melodic, and harmonic dictation. Music notation and terminology. Recommended to students who wish to prepare themselves for intelligent listening to music and for participation in musical activities such as glee clubs, etc. Miss Olson and Mr. Manton. 3 rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

21-22. Harmony and Beginning Counterpoint. Designed to supplement the technical training begun in Music 11-12. Seventh chords, altered chords, suspensions, modulation, imitation, analysis, and the five orders of simple two-part counterpoint together with the commencement of composition in the smaller forms. Mr. Manton. Prereq.: Music 11-12. 3 rec.; 3 cr.

51. Counterpoint. Three- and four-part counterpoint, the free harmonization of chorals and melodies, double counterpoint, imitative counterpoint, together with beginnings of canonic and fugal writing. Composition will include the writing of inventions, choral preludes, and simple forms of free instrumental composition. Mr. Manton. Prereq.: Music 21-22. 3 rec., 3 cr. (Not offered in 1945-1946.)

52. Composition. Elementary composition in the smaller forms. Designed to furnish thorough training in detail relating to sentence formation, two- and three-part forms, the variation forms, and the various rondo forms up to sonata form. This course requires knowledge of harmony and counterpoint and proficiency in pianoforte playing. Mr. Manton. Prereq.: Music 51. 3 rec.; 3 cr. (Not offered in 1945-1946.)

53. Orchestration. Designed to ground the student in idiomatic writing and technique necessary to score effectively for the modern symphony orchestra and the band. The characteristics and tone quality of the instruments; transcriptions with various combinations — strings, wind, and brass. Mr. Bergethon. Prereq.: Music 21-22. 3 rec.; 3 cr.

54. Conducting. The technique of the baton; simple and complex rhythms; specific problems from various choral and symphonic works; score reading; problems of choral and instrumental technique will be discussed. Mr. Bergethon. Prereq.: Music 53. 3 rec.; 3 cr.

History, Literature, and Appreciation

13, 14. The Appreciation of Music. Fundamentally a course to develop intelligent listening through formal analysis of the irreducible minimum of great musical masterpieces. A selection of the most important works of Bach, Handel, Haydn, Mozart, Beethoven, Schubert, Schumann, Mendelssohn, Chopin, Liszt, Brahms, Franck, Tschaikow-

sky, d'Indy, and many others, analyzed by the students and the instructor and played several times in the classroom. Mr. Manton. 3 rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

37-38. Music History and Literature. An intensive study of the actual systems, spirit, and content of the music of the period rather than résumés of biography and critical evaluations. Music of Greece and Rome, the early church, evolution of notation, beginnings of harmony and counterpoint, the Troubadours and Minnesingers, the Netherland and Roman masters of church music, the secular music of the English Madrigalists, beginnings of instrumental music, and opera and oratorio, etc., through the classic composers to Schumann. Lectures, readings, and reports. Mr. Manton. Prereq.: Music 11-12 or 13, 14. 3 rec.; 3 cr.

47-48. Music History and Literature. This course supplements music 37-38 and continues the study of the great romantic composers and their works, the neo-classicism of Brahms and Franck, d'Indy, etc., and on into the 20th century with special emphasis upon the works of such composers as Debussy, Ravel, Sibelius, Delius, Vaughan Williams, Stravinsky, Hindemith, and many others. Lectures, readings, and reports. Mr. Manton. Prereq.: Music 11-12 or 13, 14. 3 rec.; 3 cr. (Not offered in 1945-1946.)

MUSIC EDUCATION

The Department of Music offers a Four-Year Curriculum for Teachers and Supervisors of School Music (*see page 140*).

Music-Education (mu-ed) 91. Problems in the Teaching of Elementary School Music. Aims, scope, and organization of materials and activities in the elementary schools in keeping with modern trends in educational philosophy. Particular attention will be given to the child voice, its care and development. A thorough study and demonstration of materials and methods for the various grades will be made. Observation of elementary school music. Mr. Bergethon. Prereq.: Music 11-12. 3 rec.; 3 cr.

Music-Education (mu-ed) 92. Problems in the Teaching of Secondary School Music. The application of principles of education to the music curriculums of the junior and senior high school. Consideration will be given to the adolescent voice and the classification of voices; the selection of materials for study, performance, and discriminative listening; and building a course of study on student needs and interests. Observation of music programs in secondary schools. Mr. Bergethon. Prereq.: Mu-Ed. 91. 3 rec.; 3 cr.

MUSIC-EDUCATION (MU-ED) 95. THE TEACHING OF STRINGED INSTRUMENTS. A demonstration course in class-teaching of stringed instruments designed to simulate classroom situations and methods as far as possible. Miss Olson. Prereq.: Permission of the instructor. 2 rec.; 2 cr.

MUSIC-EDUCATION (MU-ED) 96. THE TEACHING OF WOODWIND INSTRUMENTS. A study of correct tone production and technique of woodwind instruments. Materials and procedures for class and individual instruction will be emphasized. Miss McDaniel. Prereq.: Permission of the instructor. 2 rec.; 2 cr.

MUSIC-EDUCATION (MU-ED) 97. THE TEACHING OF BRASS AND PERCUSSION INSTRUMENTS. A study of correct tone production and technique of brass instruments and of rudimentary percussion technique. Materials and procedures for class and individual instruction will be emphasized. Miss Kline. Prereq.: Permission of the instructor. 2 rec.; 2 cr.

NATURE STUDY

(See BIOLOGY, page 182.)

NURSING

(See page 117.)

OCCUPATIONAL THERAPY

These courses are for majors in Occupational Therapy. Schedule as O.T. 1, etc.

O.T. 1. HANDICRAFTS. A series of simple projects using different media and techniques especially adapted to use in the practice of Occupational Therapy. Miss Wilkins. 2 lab.; 2 cr.

O.T. 4. HANDICRAFTS. Stresses the therapeutic use of crafts, such as weaving, leatherwork, chip carving, stenciling, and basketry. Miss Wilkins. Prereq.: O.T. 1. 3 lab.; 3 cr.

O.T. 5, 6. HANDICRAFTS. Covers the use of plastic and synthetic materials, dyeing, chair seating, and other popular handicrafts used in Occupational Therapy. Miss Wilkins. Prereq.: O.T. 4. 3 lab.; 3 cr.

O.T. 8. PRINCIPLES OF WOODWORKING. Practical experience in the design and construction of wooden articles. Use of working drawings; estimating; selection of stock; care and use of tools; application of common finishes. Mr. Brett. 2 lab.; 2 cr. (Formerly given as M.E. 54.)

O.T. 9. LETTERING AND PRINTING. Freehand lettering, hand and power press printing; operation of various duplicating devices; silk

screen process; poster design. A survey of graphic arts methods and processes as employed in Occupational Therapy. Mr. Brett. 2 lab.; 2 cr.

O.T. 15-16. Ceramics (Pottery). Design and constructions. Methods of preparing and working clay and the uses of pottery equipment best suited to application in Occupational Therapy work. Mr. Scheier. 2 lab.; 2 cr.

O.T. 23-24. Elementary Drawing and Design. Exercises in drawing, design, and block printing. Creative activity and its therapeutic value to varying personalities. Mr. Brett. 2 lab.; 2 cr.

O.T. 45. Elementary Library Methods. A course in library methods giving a brief survey of the detail involved in the management of a small circulating library. Miss Lindquist. 1 lab.; 1 cr.

O.T. 47-48. Theory of Occupational Therapy. Historical background and evolution of Occupational Therapy. Techniques and their application to disease and injury. Instruction trips to hospitals, clinics, and demonstrations. Miss Wilkins. 2 lec.; 2 cr.

O.T. 49-50. Clinical Subjects. Basic information concerning the etiology, pathology, symptoms, and treatment of disease. Introductory lectures to acquaint students with medical terminology are followed by a study of general medical and surgical conditions, orthopedics, ophthalmology, otology, and psychiatry. Dr. Roberts and visiting lecturers. Prereq.: Zool. 17-18. 2 lec.; 2 cr. (Not offered in 1945-1946.)

ORAL ENGLISH

(See Speech, page 212.)

PAINTING

(See The Arts, page 179.)

PHILOSOPHY

Donald C. Babcock, *Professor;* Herbert F. Rudd, *Professor.*

Courses in this Department are open to Sophomores, Juniors, and Seniors.

1-2. Building a Philosophy. An introduction or "invitation to philosophy." Since a "true" philosophy depends not only on a correct understanding of the objective universe but on an adjustment of the self to that universe, this course will be a cooperative enterprise, analogous to a laboratory or craft course, in which each student will be given an opportunity to begin the construction of his own inclusive

plan and understanding of life. There will be a tracing of some of the principal paths laid out by philosophers in the past; a sharing of experience by members of the class and the instructor; and critical discussion of tentative views put forward by any member of the group. The course as offered rests on the belief that the universe and human life have a meaning, that this meaning is, in part, discoverable, and that youth is not too young to have a philosophy. Mr. Babcock. 3 lec. or rec.; 3 cr.

3-4. Ethics. Human beings behave as if there were standards by which conduct could be evaluated. What are "values"? What norms are there? What significance have they? Are "right" and "wrong" in any sense universal? How can we find out? This course deals with these questions, but makes application constantly to everyday problems of individual and social living. Mr. Babcock. 3 lec. or rec.; 3 cr.

5-6. Changing Institutions and Beliefs.

1. What new forces generate new ways of living and thinking?

   The continuing development of science, the cumulative industrial revolution, the new transportation and communication, the new and expanding economic and cultural interdependence, the new knowledge of man and society (anthropological, sociological, psychological, acquaintance with diverse civilizations and patterns of living), the new programs of controlled social change (communism, fascism, planned society), the new ideologies.

2. What old or new ways of living promise the best adjustment to the conditions of the middle years of the 20th century?

3. What general orientation or system of beliefs can best meet the requirements of a thoroughgoing realism and at the same time provide appreciation of values and provide morale for constructive effort? Mr. Rudd. 3 lec. or rec.; 3 cr.

15-16. Philosophic Values in Literature. This course aims at revealing the store of affirmations of, and allusions to, the great truths of philosophy, ethics, and religion which is to be found in the world's literature. In poetry, drama, and in fact every kind of writing, are profound and subtle statements, sometimes seemingly intuitive or prophetic. This course attempts to relate them to the great ethical or spiritual system of cosmic truth which philosophy always seeks. So-called "secular" literature will be used for sources, rather than the sacred writings of the great living religions or the Bible. Mr. Babcock. 3 lec. or rec.; 3 cr.

11-12. History of Religions. (Formerly History 25-26.) Religion as an historic force in society. The nature of religion, its origins, and early development treated in connection with primitive social history. A study of the principal religions of the world, exclusive for the most part, of Christianity. Chief attention given to Hinduism, Buddhism, Zoroastrianism, Confucianism, and Mohammedanism. The history, literature, and philosophy of the oriental civilizations and culture as a background. Mr. G. R. Johnson. 3 lec. or rec.; 3 cr. (Offered in 1945-1946.)

13-14. Historical Origins and Development of Christianity. (Formerly History 23-24.) The life, literature, religion, and social development recorded in the Old Testament are studied as a cultural background. An investigation of the historic data existing concerning the life, character, and teaching of Jesus. The growth and expansion of the Christian movement. Designed to furnish students an opportunity to evaluate their own religious heritage in the light of contemporary thought, and to make special study of particular intellectual problems. Mr. G. R. Johnson. 3 lec. or rec.; 3 cr. (Not offered in 1945-1946.)

Philosophy of History. (See Hist. 55-56.)

PHOTOGRAPHY

(See The Arts, page 179.)

PHYSICAL EDUCATION FOR MEN

Carl Lundholm, *Professor, Director of Physical Education and Athletics;* Henry C. Swasey, *Associate Professor;* Paul C. Sweet, *Associate Professor;* *George H. Sauer, *Assistant Professor;* *Charles M. Justice, *Assistant Professor;* *Anthony A. Dougal, *Assistant Professor;* *Edward J. Blood, *Instructor;* *John DuRie, *Instructor*

Requirements: All Freshman and Sophomore men students and first-year students in the Two-Year Curriculum in Agriculture are required to register for Physical Education. Each student must provide himself with an activity suit consisting of a gray sleeveless jersey, gray trunks, white woolen socks, and rubber-soled tennis or basketball shoes. This suit must be worn at all classes in Physical Education.

31, 32. Physical Education. Development of the organic system generally; stimulation of the neuromuscular system through physical activity; encouragement of a proper attitude toward play; development of an appreciation of physical activities as worthwhile leisure-

*On leave of absence.

time recreation. Required of Freshmen. 2 periods; ½ cr. Students passing will get a grade of Cr.

33, 34. Physical Education. Continuation of 31, 32. Required of Sophomores. 2 periods; ½ cr. Students passing will get a grade of Cr.

TEACHER PREPARATION COURSES

Required of students registered in the University Physical Education Teacher Preparation Curriculum for Men. Elective for other students by special permission from the Director of Physical Education and Athletics.

23. Principles of Physical Education. The aims, objectives, and principles of Physical Education and the historical factors which have influenced the physical life of nations. Mr. Lundholm. 3 lec.; 3 cr.

40. Winter Sports. Instruction and practice in ski jumping, downhill, slalom, and cross country skiing and snowshoeing. Conditioning of men, waxing of skis, and selection and care of equipment. The organization and management of winter carnivals and other competitions. Special emphasis on methods of teaching skiing. 2 rec.; 2 cr.

45. Football. A history of football with consideration of its educational implications and an analysis of the various systems of play. Instruction in team and individual offensive and defensive fundamentals. The rules, theory, strategy, generalship of team play and the responsibilities of the coach for the physical welfare of the team. 2 rec.; 2 cr.

46. Baseball. Theoretical and practical consideration of the basic principles of batting and fielding; the fundamentals of each position; special stress on problems involving team play, coaching methods, physical conditioning, and rules; a history of the game with a consideration of its educational values. 2 rec.; 2 cr.

47. Track and Field Athletics. Instruction and practical demonstrations in starting, sprinting, middle distance and distance running, relay racing, hurdling, high and broad jumping, pole vaulting, shot putting, discus, hammer, and javelin throwing. Methods of preparing contestants for the various events. 2 rec.; 2 cr.

48. Basketball. History of basketball with a consideration of its educational values. Theory and practice in the fundamentals of individual offense and defense. The various styles of team offense and defense and rules of the game. Problems in handling and conditioning a team. 2 rec.; 2 cr.

61. Problems of Teaching in Physical Education. Methods and materials of instruction, theories of play, and actual practice for the

successful teaching of recreational activities in school, on the playground, and in the community. Studies of activities adapted to different levels of maturity. 3 rec.; 3 cr.

63. Care and Prevention of Injuries. Nature and causes of injuries incident to physical activities, the common hazards of play, and preventative measures for children and athletes are discussed. First aid principles are presented. Elective for Seniors who have taken one of the following: Phys. Ed. 40, 45, 46, 47, 48. 2 rec.; 2 cr.

65. Administration of Physical Education in Secondary Schools. The aims and objectives of health and physical education. Organization and supervision of a complete unified program of health and physical education including the legal aspects, intra-mural and interscholastic athletics, medical problems, budgeting, financing, maintenance of equipment, publicity programs, and office management. Each student will be given an opportunity to serve on a committee to draw up an original program of health and physical education in a theoretical or actual situation found in some secondary school. Mr. Lundholm. Prereq.: Zool. 17, 18; Phys. Ed. 23 and 61; and two courses in the coaching of sports. These last may be taken concurrently. 3 rec.; 3 cr.

Education-Physical Education (ed-pe) 93 (93). Directed Teaching in Physical Education. Given in the Department of Physical Education and Athletics for Men. Prereq.: Zool. 17, 18; Phys. Ed. 23, and 61 or 35. The student must have completed the methods course in the sport which he is directing or take the course concurrently. 2 to 4 cr.

Education-Physical Education (ed-pe) 94. Supervised Teaching in Physical Education in the Field. An opportunity under joint supervision of the Physical Education and Education Departments, to coach athletics in secondary schools and to assist in supervising a recreational program. Prereq.: Zool. 17, 18; Phys. Ed. 23, 65 and 35 or 36, methods courses in those sports in which the student intends to become actively engaged. 2 to 4 cr.

MAJOR COURSES

23. Principles of Physical Education. The aims, objectives, and principles of Physical Education and the historical factors which have influenced the physical life of nations. Mr. Lundholm. 3 lec.; 3 cr.

55. Remedial Gymnastics. The adaptation of exercise to individual needs, capacities, and limitations; physical abnormalities and their correction. Miss Browne. Prereq.: Zool. 17, 18. 2 lec. or rec.; 2 lab.; 3 cr.

63, 64. The Theory and Coaching of Sports for Women. The principles involved in the teaching of team games and individual sports with emphasis on coaching methods and officiating. Miss Bancroft and Miss Ongley. 2 lec. or rec.; 4 lab.; 3 cr.

66. Administration of Physical Education in Secondary Schools. Administrative relationships and procedures in the conduct of physical education and health education in the secondary schools. Preparation of general administrative policies; facilities and equipment. Miss Browne. 3 lec.; 3 cr.

(P-E) 91. Problems in the Teaching of Physical Education for Women. The organization of a comprehensive program of activities for use from the primary grades through college. Mrs. Rettig. 3 lec. or rec.; 2 lab.; 4 cr.

ELECTIVE COURSES OPEN TO ALL STUDENTS INTERESTED IN HEALTH, PHYSICAL EDUCATION, AND RECREATION

24. Organized Camping. The methods, objectives, and purposes of organized camping for groups; standards for organized summer camps, facilities, equipment, food sanitation, health, and safety requirements necessary for organized camps; camp departments, programs, and camp leadership qualifications. Mrs. Wooster. 3 lec.; 3 cr.

36. Recreation Leadership. Philosophy of recreation, organization, and administration of social recreation, clubs, and playgrounds; recreation as therapy, application of recreation to wartime and postwar situations. Miss Beckwith. 2 lec. or rec.; 1 lab.; 3 cr.

(P-E) 92. Directed Teaching of Physical Education for Women. Opportunity for teaching of Physical Education activities under direction in the elementary and secondary schools. Mrs. Rettig. Prereq.: (P.E.) 91. Open to Seniors. 1 lec. or rec.; 2 lab.; 2 cr.

PHYSICAL EDUCATION FOR WOMEN

Marion C. Beckwith, *Associate Professor;* Dorothea J. Bancroft, *Instructor;* Evelyn Browne, *Instructor;* Caroline S. Wooster, *Instructor;* Phyllis Ongley, *Instructor;* Hazel W. Rettig, *Instructor.*

The Department of Physical Education for Women aims to develop in each individual the physical, social, and mental qualities which will enable her to meet successfully the demands of a war and postwar world. The courses include recreative and leisure-time activities, vigorous team sports and gymnastics, rhythmic and dance activity, and the opportunity to participate in club activities which are provided for the more highly skilled. This program is supplemented by the extra-curricular competition offered by Women's Athletic Association.

Requirements. All women students are required to register for at least one credit of physical activity for each of the first six semesters they attend the University. Freshmen women should register for P.E. 1, 2; Sophomores for P.E. 3,4; and Juniors for P.E. 5, 6. In addition, Freshmen women are required to take Freshman Problems, P.E. 1.5, 2.5. One additional activity or an academic course within the Department may be elected each semester for additional credit. Except by special permission, the same activity shall not be credited more than twice.

Physical Examinations. Each student must, upon entering, have a physical examination by the University Physician and a posture test by the Physical Education staff. Individual gymnastics is required of each Freshman whose physical condition indicates this need. Students with physical disabilities must follow the same procedure as other students including registration for Physical Education credit. In most cases, modified activities are recommended by the University Physician. Otherwise, theoretical work is assigned by the Department.

Motor Ability Test. All students are expected to take the motor ability test at the time of entering the University and at the completion of their Physical Education requirement. This test is also used as a basis for determining club membership and credit for advanced instruction. (See Advanced Instruction.)

Advanced Instruction. To provide for the more highly skilled student and to encourage the interest and ability of the less skilled, the Department of Physical Education for Women includes in its program numerous club and interclass activities in which advanced instruction is given by a member of the teaching staff.

Membership: Open to any University student.

Qualifications: Club standards or membership of class squad.

Credit: Upperclassmen may substitute club activities for their basic course in rhythmics if the results of the motor ability test show they are qualified to do so.

Clubs:

Dance — Instructor, Mrs. Rettig.

Riding — Instructor, Miss Browne.

Skating — Instructor, Miss Ongley.

W.A.A. — Instructor, Miss Bancroft and staff.

Women students following any Teacher Training Curriculums in the University are urged to elect for required Physical Education the fol-

lowing activities: Folk dancing, community games, speedball, hockey, basketball, and American country dancing.

Required Costume and Equipment. Special gymnasium uniform consists of blue cotton shorts and shirt, cotton fleece warm-up suit, white socks, and regulation gymnasium shoes. Students are required to furnish their own individual equipment for such activities as tennis. contemporary dancing, individual gymnastics, skiing, and skating. Equipment is furnished for golf, fencing, badminton, hockey, archer, lacrosse, and softball.

1.5, 2.5. Freshmen Problems. The art of healthful living. Problems of health, personal appearance, conduct and personality. Required of Freshmen. Miss Beckwith and Mrs. Wooster. 1 lec.; 1 cr.

1, 2; 3, 4; 2, 6. Physical Education. Students should register for one activity (meeting two hours a week) from the lists below. One additional hour of fundamentals (Freshmen) or rhythmics (upperclassmen)* will be arranged by the Department.

ACTIVITY COURSES

(elect one a quarter)

First Quarter: Archery, badminton, contemporary dance, hockey, individual gym, riding (beg. + inter.), riding (advanced), soccer, speedball, tennis (beg.), tennis (inter.)

Second Quarter: Basketball, badminton, contemp. dance, community games, individual gym, folk dancing, fencing, bowling, skating, skiing, riflery.

Third Quarter: Basketball (inter), badminton, contemp. dance, community games, individual gym, Am. country dance, fencing, bowling, skating, skiing, riflery.

Fourth Quarter: Archery, badminton, contemp. dance, golf, individual gym, riding (beg. + inter.), riding (advanced), lacrosse, softball, tennis (beg.), tennis (inter.).

Required of Freshmen, Sophomores, and Juniors. 3 periods; 1 cr.

7, 8. Physical Education. Elect courses from the list under Phys. Ed. 1, 2. Elective for Seniors. 3 periods; 1 cr.

11, 12; 13, 14; 15, 16; 17, 18. Physical Education. Elective courses open to Freshmen, Sophomores, Juniors, and Seniors respectively may be chosen from the lists under Phys. Ed. 1 ,2. 2 periods; 1 cr.

*See Advanced Instruction for substitutions.

UNIVERSITY OF NEW HAMPSHIRE

PHYSICS

HORACE L. HOWES, *Professor;* HARRY H. HALL,* *Professor;* WILLIAM H. HARTWELL, *Associate Professor;* GREGORY K. HARTMANN,* *Assistant Professor;* HAROLD I. LEAVITT, *Associate Professor;* DUANE F. CARLISLE, *Instructor.*

1, 2. INTRODUCTORY PHYSICS. Mechanics; properties of matter; heat; magnetism; electricity; wave motion; sound and light. Demonstration lectures, laboratory, and recitation. A knowledge of high school algebra and plane geometry is essential. 1 lec.; 2 rec.; 1 lab.; 4 cr.

4. ELEMENTS OF PHYSICS. A brief treatment of mechanics and heat; followed by studies in light and electricity. A working knowledge of arithmetic, algebra, and plane geometry is essential. Prereq.: Sophomore standing in Agr. 2 lec.; 1 rec.; 1 lab.; 4 cr.

5-6. PRE-MEDICAL PHYSICS. This course offers the same lectures and recitations as Physics 1, 2 (Introductory Physics). In a separate laboratory, however, special attention is paid to the needs of students in preparation for medical work. 1 lec.; 2 rec.; one 3 hr. lab.; 5 cr.

7-8. GENERAL PHYSICS. Mechanics and properties of matter; heat; selected topics in sound and light; electricity and magnetism. Prereq.: Math. 4 or 6 in advance, and Math. 7-8 either in parallel or as a prerequisite. 1 experimental lec.; 3 rec.; Phys. 7, 4 cr.; Phys. 8, 3 cr.

9. GENERAL PHYSICS LABORATORY. Open only to students studying, or credited with Phys. 7. Experiments in mechanics and properties of matter, with report writing and curve plotting of data. Appreciation of the laws of Physical Science; the development of laboratory technique, and the estimation of the limitations of scientific experimentation. Prereq.: The same as those for Phys. 7-8. 2 lab.; 3 cr.

10. GENERAL PHYSICS LABORATORY. A continuation of Physics 9 to include experiments in heat, sound, light, electricity, and magnetism. Prereq.: Phys. 7 and 9. 2 lab.; 3 cr.

15. SURVEY OF PHYSICAL SCIENCE. The fundamental facts and principles necessary for an understanding of such subjects as the earth as an astronomical body and our neighbors in space; the origin of the solar system; the universe as a whole; the nature of matter and energy, heat, light, sound, electricity, radiant energy and atomic structure. Mr. Leavitt. Open to Sophomores preparing to teach in the fields of English, Social Studies, and the Foreign Languages, who may elect this course and Phys. 16 to meet their Physical Science requirements for the degree. 3 lec. or rec.; 3 cr.

*On leave of absence.

16. Survey of Physical Science. The fundamental facts and principles necessary for an understanding of such subjects as the constitution of matter, physical changes, chemical changes, communication, the uncontrolled changes or geological evolution of our physical environment, the climate and weather. Mr. Leavitt. Open to Sophomores preparing to teach in the fields of English, Social Studies, and the Foreign Languages. 3 lec. or rec.; 3 cr.

41-42. Intermediate Physics. A general survey of Physics in which free use is made of the methods of Calculus. The course is designed to introduce the student to the topics of mechanics, heat, light, sound, and wave motion in a more rigorous manner than is possible in the elementary presentations. Prereq.: Math. 7-8; Phys. 1, 2 or Phys. 7, 8. 2 lec.; 1 rec.; 3 cr.

51. Theory of Electrons. The theory of electricity including the passage of a current through a gas, the mobility of ions, the determination of charge and mass of the electron, ionization by collision, the corona discharge, cathode rays, positive rays, thermionic emission, photo-electricity and X-rays. Prereq.: Phys. 7-8, Math. 7-8. 2 lec.; 2 cr.

54. Acoustics. The principles of sound origins, propagation, and reception applied. Lectures and recitations. Prereq.: Phys. 1, 2 or Phys. 8 and 10. 3 lec.; 3 cr.

55. Experimental Physics. Designed to augment the student's knowledge of the theory and performance of optical instruments; to improve his laboratory technique in precision measurements. The fundamental physical theories underlying the phenomenons of refraction, interference. diffraction, and polarization will be discussed in the lecture periods. Prereq.: Phys. 2 or 8; Math. 7-8. 2 lec.; 1 lab.; 4 cr.

56. Modern Experimental Physics. Measurement of the charge on the electron by the Millikan oil drop method; of e/m by cathode ray deflection; of Planck's constant by the investigation of photoelectric cells and various other quantities will be taken up. The first portion of the laboratory work is planned to acquaint the student with the laboratory techniques of modern Physics. A part of the course will consist of a development project for each student. Prereq.: Phys. 1, 2; Math. 7-8. 2 lec.; 1 lab.; 4 cr.

*57-58. Introduction to Theoretical Physics. Equation of motion in particle dynamics and typical problems; simple harmonic motion; small oscillations; damped and forced oscillations; some rigid dynamics; normal coordinates; vibrating string; elasticity; heat flow; electrostatics; potential theory; energy in electromagnetic field; waves;

*Course to be given at the discretion of the Head of the Department.

dispersion; Huygens' principle. Prereq.: Math. 7-8; either Phys. 1, 2 or Phys. 7, 8; Phys. 41, 42 or equivalent. 2 lec.; 1 rec.; 3 cr.

*61. Electricity and Magnetism. Intended to give a theoretical background for the understanding of electrical phenomena, and a foundation for the study of electrical measurements. Electrostatics, magnetostatics, Kirchoff's laws, fields associated with currents, alternating currents, complex impedance, free and forced oscillations of a simple circuit, thermoelectricity, characteristics of vacuum tubes. Prereq.: Phys. 7-8; Math. 7-8. 3 lec.; 3 cr.

64. Electrical Measurements. Experiments on the use of precision potentiometers, the constants of sensitive galvanometers, low resistance by the Kelvin double bridge, high resistance by the method of leakage and by direct deflection, the use of alternating current bridges for measuring capacity, self and mutual inductance and frequency, the characteristics of certain photoelectric cells. Prereq.: Phys. 8 and 10. 1 lec.; 1 lab.; 3 cr.

*65-66. Molecular Physics. An introduction to kinetic theory of gases, thermodynamics, and statistical mechanics as applied to physical and chemical problems. Prereq.: Phys. 1, 2 or Phys. 7, 8; Math. 7-8. 3 lec.; 3 cr.

71-72. Physics Seminar. Selected subjects in modern and classical Physics are discussed before the seminar. Each student presents at least one paper per semester. Prereq.: Math. 7-8; Phys. 7, 8; general scientific maturity. 1 lec.; 1 cr.

73-74. Thesis. A topic for experimental investigation will be assigned each student and a thesis covering the reading and the observations will be required. Prereq.: Phys. 41, 42, and permission of Department Head.

General Science-Education (gen. sci-ed) 91. Problems in the Teaching of General Science. Units of subject matter presented in the form of lecture-demonstrations and discussions, accompanied by assigned readings. The objectives and methods of teaching general science developed with the subject matter presentations. Opportunity for students to participate in the lecture demonstrations. Mr. Leavitt. 3 lec. or rec.; 3 cr.

For courses primarily for Graduate students, see Catalogue of the Graduate School.

POLITICAL SCIENCE

(See Government, page 219.)

*Course to be given at the discretion of the Head of the Department.

POULTRY HUSBANDRY

POULTRY HUSBANDRY

T. Burr Charles, *Professor;* Fred E. Allen, *Assistant Professor;* Alan C. Corbett, *Assistant Professor;* Richard C. Ringrose. *Assistant Professor.*

2. Farm Poultry. The general principles of Poultry Husbandry and their practical applications with emphasis on factors of culling, breeding, housing, feeding, marketing, diseases and parasites, incubation and management. Mr. Charles, Mr. Ringrose. (Formerly given as P.H. 5.) 2 lec.; 1 lab.; 3 cr.

6. Poultry Feeding. The principles of feeding; analysis of recent experimental work and current feed problems. Each student will care for a group of birds for several weeks for practical observation and collection of data. Mr. Ringrose. (Formerly given as P.H. 20.) 2 lec.; 1 lab.; 3 cr.

8. Poultry Housing. Design and construction of poultry houses and equipment; costs of materials; management principles. Mr. Charles. (Formerly given as P.H. 22.) 1 lec.; 1 lab.; 2 cr.

17. Poultry Breeds and Judging. The origin, history, and classification of breeds. Theory and practice in judging fowls for egg production and exhibition and for intercollegiate contests. Mr. Ringrose. 2 lec.; 1 lab.; 3 cr.

18. Incubation and Brooding. The principles involved in incubation and brooding of poultry; embryonic development. Students individually operate incubators and care for groups of chicks. Mr. Charles. 2 lec.; 1 lab.; 3 cr.

19. Poultry Marketing. The preparation of poultry and eggs for market. Egg qualities and grades, candling and packaging; egg and poultry market conditions; practical instruction in killing, picking, and dressing. Mr. Ringrose. 2 lec.; 1 lab.; 3 cr.

24. Poultry Practice. Practical work at the University Poultry Plant in the hatching, rearing, and care of chickens. Mr Charles. Ten hours a week of practical work. 4 cr. (Note: By permission, students with previous practical poultry experience may substitute 4 semester credits of electives for this course.

25. Poultry Diseases. The anatomy of the fowl; diseases and parasites encountered in poultry practice; methods of prevention and control. Mr. Corbett. 3 lec.; 1 lab.; 4 cr.

26. Poultry Management. The application of successful business principles to poultry farming; study of surveys and production costs.

As a part of the laboratory work, a detailed "three year" development plan of a poultry farm will be studied. Mr. Charles, Mr. Ringrose. (Formerly given as P.H. 23.) 2 lec.; 1 lab.; 3 cr.

27, 28. POULTRY SEMINAR. Students abstract experimental data and report on various current poultry topics. Thesis required. Mr. Charles, Mr. Ringrose. 1-hour conference; 1 cr.

29. POULTRY BREEDING. The genetic principles involved in breeding for egg production, including practical application and demonstration. Mr. Charles. Mr. Ringrose. (Formerly given as P.H. 16.) 2 lec.; 2 cr.

53, 54. POULTRY PROBLEMS. Students are given a selection of various problems and are required to compile and present accurate and detailed information in their solution. Mr. Charles, Mr. Corbett. Mr. Ringrose. 1 to 3 cr.

For courses primarily for Graduate students see Catalogue of the Graduate School.

PRE-DENTAL

(See page 119.)

PRE-LAW

(See page 108.)

PRE-MEDICINE

(See page 119.)

PSYCHOLOGY

HERBERT A. CARROLL, *Professor;* ADOLPH G. EKDAHL,* *Associate Professor;* FRANKLIN J. SHAW, *Assistant Professor;* RUTH B. KELLY, *Instructor.*

Except for Psych. 11, courses in this Department are not open to Freshmen.

11, (11). PRINCIPLES OF HUMAN BEHAVIOR. The purpose of this course is to offer opportunities to students to acquire such appreciative knowledge of important principles of human behavior as will be helpful to them in controlling their own conduct and understanding others more intelligently. Mr. Shaw and Miss Kelly. Open to Freshmen and Sophomores only. 3 lec.; 3 cr.

31, (31). GENERAL PSYCHOLOGY. A systematic study of essential facts and principles of Psychology, including sensation and perception, the nervous system, emotion, development, and personality. Mr. Shaw.

*On leave of absence.

Prereq.: Psych. 11, except for Hotel Administration, Nursing, Premedical, and Social Service students. 3 lec.; 3 cr.

33. Industrial Psychology. A study of the fundamental principles of Psychology in a setting of direct application to personal and social problems met with in business and industry. Mr. Shaw. 3 lec.; 3 cr.

47, (47). Mental Hygiene. An examination of the fundamental emotional satisfactions desired by human beings and a consideration of the several ways in which these desires are thwarted. The mental conflicts growing out of such thwartings and ways of resolving them will be the central theme of the course. Specific application of the principles of mental health will be made to the problems of college students. Mr. Carroll. (Formerly Psych. 81.) 3 lec.; 3 cr.

51. Psychology of Childhood. The mental processes and reactions of the normal child from early infancy to adolescence studied in order to obtain a comprehensive understanding of the development of the personality of the child. Special emphasis is placed on problems of parents and teachers and the importance of childhood for later adjustment. Mr. Ekdahl. Prereq.: Psych. 11 or 31. 3 lec.; 3 cr.

54. Psychopathology. The distortion of the psychological functions of perception, association, memory, judgment and thinking, as found in the maladjusted individual in need of institutional care. The symptoms distinguishing the various types of mental defectiveness and the more common forms of the psychoses and neuroses are presented to enable the student to recognize typical cases. Mr. Shaw. Prereq.: Psych. 31. 3 lec.; 3 cr.

57. Experimental Psychology. A study of experimental work in Psychology supplemented by class experiments. Emphasis will be placed on scientific method and experimental procedure. Mr. Shaw. Prereq.: Psych. 31. 3 lec.; 3 cr.

58. Psychology of Learning. A study of the principles and theories of learning and forgetting and their application to habit-formation, social learning, and educational problems. Mr. Ekdahl. Prereq.: Psych. 31. 3 lec.; 3 cr.

62. Psychology of Personnel. The application of Psychology to personnel management in business and industry. The use of intelligence, trade, and aptitude tests, and interest questionnaires in employment. The development and maintenance of morale through efficiency methods, favorable conditions of work, and intelligent leadership. Mr. Shaw. Prereq.: Psych. 33. 3 lec.; 3 cr. (Formerly Psychology 36.)

63. Individual Differences. A study of individual differences with special emphasis on intellectually gifted and mentally subnormal children. Mr. Carroll. Prereq.: Psych. 31. 3 lec.; 3 cr. (Formerly Psych. 56.)

66. Comparative Psychology. (Not offered in 1945-1946.)

67. Principles of Measurement. A study of the problems involved in objectively measuring mental aptitudes and the results of learning by means of standardized group tests. Special attention will be given to the statistical interpretation of scores. Mr. Carroll. Prereq.: Psych. 11. 3 lec.; 3 cr.

68. Individual Mental Testing. Demonstrations and experience in the administration of individual intelligence tests. Major attention will be given to the Terman-Merrill Revision of the Binet-Simon Scales. Mr. Carroll. Prereq.: Psych. 67. 3 lec.; 3 cr.

74. Psychology of Personality. The course is concerned with the study of the attitudes and motives of the individual. Attention will be given to attempts to classify personality and temperament and methods of measuring personality traits. Mr. Shaw. Prereq.: Psych. 31 and 47. 3 lec.; 3 cr.

82. Clinical Problems. An examination of the objectives, theories, and methods of psychological counseling. Mr. Carroll. Prereq.: Psych. 54 or Psych. 54 taken concurrently. 3 cr.

98. Seminar in Psychology. Mr. Carroll. Prereq.: 18 semester credits in Psych. 3. 3 cr.

PUBLICITY

The courses in Publicity (communications, propaganda—courses which will assist one in mastering the technique of the dissemination of ideas) offered by several departments within the University are here grouped for the convenience of students who wish to elect work in this field.

Students who wish to extend their major programs with courses in Publicity, or who wish to major in this field, should consult Professor Harold H. Scudder of the College of Liberal Arts.

COURSES OF DIRECT APPLICATION TO PUBLICITY

Public Speaking—English 35
Radio Speaking—English 39 (39)
Advanced Composition—English 7, 8
News Writing—English 9, 10
Expository Writing—English 41 (41)

Free-hand Drawing—Arts 23, 24, 25, 26
Water color and Modeling—Arts 27, 28, 11
Personal Use Typewriting—Secretarial Studies 5 (5) (required, but not to be used for major credit)
Photography—Arts 39, 52
Grammar—English 19

COURSES IN SUBJECTS CLOSELY ALLIED TO PUBLICITY

**Principles of Human Behavior—Psychology 11 (11)*
Industrial Psychology—Psychology 33
Psychology of Personnel—Psychology 62
Principles of Economics—Economics 1-2
Economic and Commercial Geography—Economics 4
Geography of the Western and Eastern Hemispheres—Geography 1-2
Geography of North America—Geography 52
**Citizenship—Government 1*
**Current Problems—Government 2*
American Government—Government 3-4
International Relations and Organizations—Government 55, 56
**Principles of Sociology—Sociology 1*
**Social Psychology—Sociology 2*
American Society—Sociology 21, 22
The United States from 1790 to 1900—History 7-8
The History of England—History 21-22
Introduction to the Arts—Arts 31, 32

PUBLIC SPEAKING

(See page 212.)

RADIO

(See page 213.)

RELIGION

(See courses in Department of Philosophy, page 252.)

SECRETARIAL STUDIES

(See page 197.)

SOCIAL SCIENCE

The courses listed below are given under the auspices of the Division of Social Science of the Faculty of the College of Liberal Arts.

*Cannot be used to satisfy major requirements.

This division includes the Departments of Economics and Business Administration, History, Government, Psychology, and Sociology.

51. Social Statistics. A course primarily for the Social Science student designed to acquaint him with the place of Statistics in the Social Science field and to bring out the significance of Statistics as an instrument of research. The course will cover the meaning and interpretative use of the most commonly employed statistical symbols and terminology and the applications of these to the various Social Science fields. Those interested in Mathematical Statistics should take Math. 61-62. Mr. Kichline and Mr. Bachelder. 3 lec. or lab.; 3 cr. (Not offered in 1945-1946.)

79, 80. Seminar in State Problems. A research course in problems of current import to this state taught by staff members in the Division of Social Science. Hours arranged; 1-6 cr.

81, (81). Undergraduate Interneships. Actual field work in a department of the state or local government. The work will be in charge of the department or agency to which the student is appointed. Arrangements for each student will be in charge of the Head of the Department involved or his representative. Prereq.: Background work for the internships, substantial work in Govt., Econ., Acc., Hist., or Soc. For Juniors and Seniors. Not more than 18 credits. No more than 9 credits may be counted toward the completion of major requirements.

SOCIAL SERVICE

(See page 123.)

SOCIOLOGY

Charles W. Coulter, *Professor;* *Joseph E. Bachelder, Jr., *Associate Professor;* Arnold W. Green, *Instructor.*

1. Principles of Sociology. The underlying laws of human society, especially those governing the origin, growth, and decline of institutions; group relationships to biological and geographic environments; social processes such as conflict, competition, imitation, accommodation, co-operation, assimilation, and differentiation; societal isolation; culture, its organization, content, location, and formation; social institutions including the familial, religious, economic, educational, recreational, and political; social change with its attendant maladjustments, and social control. Mr. Green. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

*On leave of absence.

2. Social Psychology. The social aspects of the development and functioning of the personality; analysis of the processes through which the individual's impulses are shaped and confined by the cultural patterns of the group and of the factors which determine attitudes, wishes, habits, and social roles; a critical evaluation of the various methods used at present for the study of human nature. Mr. Green. 3 lec. or rec.; 3 cr. *This course cannot be used to satisfy major requirements.*

21-22. American Society. A content course in Educational Sociology designed to acquaint the student with the nature and inter-relations of the institutions in democratic society. Especially adapted for Sophomores and Juniors who require a single survey course in the field of the Social Sciences. Mr. Coulter. 3 lec. or rec.; 3 cr.

53. Cultural Anthropology and Ethnology. (1) A comparative study of primitive folk-ways, institutions, and social organization, marriage, economic activities, religion, property inheritance and folklore; culture and the principles of its development; the significance of primitive culture for an understanding of contemporary civilization. (2) A comparative study of peoples; environmental factors; societal effect of invasion, colonization, and linguistic fusions; race and class struggles; jingoism, race relations in mid-European territory and in the Far East; the problem of world peace. Mr. Coulter. Prereq.: Soc. 1 and 2, or by special permission. 3 lec. or rec.; 3 cr.

54. The Immigrant and the Negro. Negro and immigrant heritage; problems of assimilation and Americanization. Intensive study of selected groups, the Negro, the Jew, the Italian, the Pole, the Greek, the French-Canadian, and the Japanese. Mr. Coulter. Prereq.: Soc. 1 and 2, or by special permission. 3 lec. or rec.; 3 cr.

57. Rural Sociology. The foundation materials of rural life; the physical setting—land, land-policies, land-tenure; land-economics; farm and village population—its composition, its changes; the income basis of rural life, the standard of living; rural habits, attitudes; rural groupings, arrangements, the mechanisms of communication and social control; rural institutions with respect to welfare, sociability, education, and religion. Mr. Green. Prereq.: Soc. 1 and 2, or by special permission. 3 lec. or rec.; 3 cr.

60. Urban Sociology. The changes in community life that have come with the shift of population from rural districts; factors involved in the rapid growth of cities since 1800; physical structure of the city, processes of internal growth; the segregation which makes of the city a mosaic of distinct cultural worlds; increase in mobility which multiplies social stimuli; typical areas within the city—foreign colonies, rooming house districts, apartment and hotel areas, outlying

areas of homes; the effect of the city upon community life, the family, church, school, unorganized group behavior, attitudes and life organization of the person. Mr. Green. Prereq.: Soc. 1 and 2. 3 lec. or rec.; 3 cr.

61. Social Pathology. The social factors involved in alcoholism, blindness, deafness, sickness, illness, accidents, mental deficiency, mental disorder, drug addiction, prostitution, poverty, and vagrancy. The relation of personal, institutional, and community disorganization to social and individual pathologies. Remedial measures based upon a discussion of human nature and the physical conditions of modern life. Especially recommended for Pre-medical, Pre-legal, and other students who will be handling social variants in their professions. Mr. Green. Prereq.: Soc. 1 and 2. 3 lec. or rec.; 3 cr.

62. Community Organization. Town and country community organization with respect to natural and interest groupings; the survey; methods of analyzing problems of community organization; methods of utilizing institutions and equipment in the development of programs and organizations for health, recreation, general welfare, and control. Mr. Green. Prereq.: Soc. 1 and 2, or by special permission. 3 lec. or rec.; 3 cr.

71. Crime and Its Social Treatment. The increase, extent, and more popular theories of crime and delinquency, juvenile and adult. Case studies of individual delinquents with special reference to the influence of family and neighborhood environments; typical social situations and their influence; programs for the social treatment of crime, the reorganization of reformatory institutions, classification of offenders for separate treatment, the "honor system," limited self-government, parole and probation, and the juvenile court as agencies for the prevention of delinquency. Mr. Coulter. Prereq.: Soc. 1 and 2, or by special permission. 3 lec. or rec.; 3 cr.

72. The Family. The rise of the marriage institution and the family. Divorce, desertion, changing status of women, child welfare, child labor laws, and related modern problems. Mr. Coulter. Prereq.: Soc. 1 and 2, or by special permission. 3 lec. or rec.; 3 cr.

73. Principles of Social Case Work. The present trend in family case work; the techniques of interviewing, diagnosis, treatment and case recording; the significance of present day relief practices. Mr. Coulter. Prereq.: Soc. 1 and 2. 3 lec. or rec.; 3 cr.

75. Methods of Social Research. The application of the historical survey, statistical and case methods to social data; the use of bibliography, definition, and selection of the problem, determination of

the data needed, collection and arrangement of data for presentation and exposition. Mr. Green. Prereq.: Soc. 1 and 2, for majors in Sociology; without prerequisite for other students in Division of Social Science. 3 lec. or rec.; 3 cr.

The Departments of Economics, Agricultural Economics, Government, History, Mathematics and Sociology offer jointly a course designed to meet the needs of those Social Science students who are interested primarily in Statistics as applied to the Social Science fields. See Social Statistics 51, page 268.

84. Methods of Social Progress. Efforts to improve social conditions and attain a larger measure of social justice; community experiments; development of modern social legislation; application of principles of insurance to social problems; various forms of mutual aids and philanthropy; endowments and special foundations. Mr. Coulter. Prereq.: Soc. 1 and 2. 3 lec. or rec.; 3 cr.

87. The Church in American Society. Contemporary organizations for worship in the community, their correlation, functions, and problems; the rise of the church and its relation to labor, the state, school, social welfare agencies; significance to the community of its organization and financing; church federation and union. Mr. Coulter. Prereq.: Soc. 1 and 2. 3 lec. or rec.; 3 cr.

88. Recreation and Leisure. Problems arising from the increase of leisure time in modern society; typical leisure-time activities; theories of play; practical training programs in recreation; the function of leadership; analysis of types and qualities of leadership as exhibited by typical leaders; the material and program of leadership training. Mr. Green. Prereq.: Soc. 1 and 2. 3 lec. or rec.; 3 cr.

95, 96. Sociological Research. A workroom course. Research projects will be set up in conference with the instructor and worked out individually or in groups. Emphasis is placed on techniques of gathering data and on presentation of the findings. Mr. Coulter. Prereq.: 12 credits in Sociology including Soc. 75. 3 cr.

97, 98. Social Service. Field work, designed to give the student an understanding of social work through observation and participation. Lectures, readings, and conferences will be offered during the college year. The field work requirement may be satisfied either during the college year in co-operation with neighboring social agencies or during the summer by eight weeks' work with other accredited social work institutions. The Department will arrange for a limited number of student summer placements with well supervised settlements, correctional institutions, and case work agencies in Chicago, Cleveland,

Pittsburgh, Boston, and other urban centers. It is strongly recommended that students who can qualify should acquire this experience in the summer following the Junior year. In most cases agencies offer no remuneration beyond living expenses. Mr. Coulter. Prereq.: 12 credits of work in Soc. 3 cr.

SPANISH

(See LANGUAGES, page 237.)

SPEECH CORRECTION

(See page 212.)

STENOGRAPHY

(See page 197.)

TEACHER PREPARATION

(See page 136.)

THERAPY

(See OCCUPATIONAL THERAPY, page 251.)

TYPING

(See page 197.)

ZOOLOGY

(See page 185.)

UNIVERSITY OF NEW HAMPSHIRE CALENDAR

1945-46

1945 SUMMER SCHOOL

July 2	Monday	Registration Day
July 4	Wednesday	Holiday (Classes make up July 7)
Aug. 10	Friday	Summer Session closes

FIRST SEMESTER, 1945

Sept. 18	Tuesday	Orientation Week begins
Sept. 24	Monday	Registration Day
Sept. 25	Tuesday	Classes begin at 8 A.M.
Nov. 13	Tuesday	Mid-Semester Reports are to be filed, 5 P.M.
Nov. 21-26	Wed.-Mon.	Thanksgiving Recess—Wed., 12:30 P.M., to Mon., 8 A.M.
Dec. 21	Friday	Christmas Recess begins at 12:30 P.M.

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Jan. 2	Wednesday	Christmas Recess ends at 8 A.M.
Jan. 28 to Feb. 2	Mon.-Sat.	Examination Week

SECOND SEMESTER

Feb. 4	Monday	Recitations begin at 8 A.M.
Mar. 12	Tuesday	Town Meeting, classes excused 10 A.M.-12:30 P.M.
Mar. 30	Saturday	Spring Recess begins at 12:30 P.M.
Apr. 2	Tuesday	Mid-Semester Reports to be filed, 5 P.M.
Apr. 8	Monday	Spring Recess ends at 8 A.M.
May 29 to June 5	Wed.-Wed.	Examination Week
June 9	Sunday	Baccalaureate Exercises, 10 A.M. Commencement at 2 P.M.

NOTE: Intersession Classes may be scheduled for August 13 to September 15 if there is sufficient demand.

SUMMARY OF REGISTRATION

	Agriculture				Liberal Arts				Technology				Miscellaneous				Total: Men				Total: Women				Total: Both			
	1943–44	1942–43	1941–42	1940–41	1943–44	1942–43	1941–42	1940–41	1943–44	1942–43	1941–42	1940–41	1943–44	1942–43	1941–42	1940–41	1943–44	1942–43	1941–42	1940–41	1943–44	1942–43	1941–42	1940–41	1943–44	1942–43	1941–42	1940–41
Senior	4	26	29	47	136	227	289	273	38	91	65	68	....	....	....	....	57	214	222	265	121	130	161	123	178	344	383	388
Junior	1	20	37	33	172	259	298	306	12	81	100	71	....	....	....	....	29	215	286	254	156	145	149	156	185	360	435	410
Sophomore	9	38	33	49	201	314	324	330	28	123	105	119	....	....	....	....	54	276	291	347	184	199	171	151	238	475	462	498
Freshman	15	54	52	51	316	415	400	357	71	264	148	127	....	....	....	....	133	505	372	340	269	228	228	195	402	733	600	535
Special	5	7	7	5	34	35	80	78	3	10	6	8	....	....	....	....	13	29	35	44	29	23	58	47	42	52	93	91
Graduate	..	..	..	..	..	..	..	..	..	..	..	..	38	65	125	136	18	36	82	101	20	29	43	35	38	65	125	136
Total—regular curriculums	34	145	158	185	859	1250	1391	1344	152	569	424	393	38	65	125	136	304	1275	1288	1351	779	754	810	707	1083	2029	2098	2058
Non-degree curriculums																												
2nd yr.	1	11	18	31	9	....	....	....	..	..	..	..	....	....	....	....	1	11	15	27	9	....	3	4	10	11	18	31
1st yr.	5	20	25	18	22	21	....	....	..	..	..	..	....	....	....	....	5	22	23	18	22	19	2	...	27	41	25	18
Total	6	31	43	49	31	21	....	....	..	..	..	..	....	....	....	....	6	33	38	45	31	19	5	4	37	52	43	49
Vocational Agriculture	43	18	..	..	..	..	..	..	..	..	..	..	....	....	....	....	43	15	....	....	0	3	....	....	43	18	....	....
Summer School	..	..	..	..	..	..	..	..	..	..	..	..	778	586	479	524	310	266	192	264	468	320	287	260	778	586	479	524
U. S. War training courses																												
On campus	..	..	..	..	..	..	..	..	..	..	..	..	11	167	539	447	9	127	523	443	2	40	16	4	11	167	539	447
Off campus	..	..	..	..	..	..	..	..	..	..	..	..	376	462	530	133	341	411	476	133	35	51	54	...	376	462	530	133
Total War training	..	..	..	..	..	..	..	..	..	..	..	..	*387	‡629	1069	773	350	538	999	769	37	91	70	4	387	629	1069	773
Extension courses	..	..	..	..	..	..	..	..	..	..	..	..	309	189	‡‡	‡‡	130	70	‡‡	‡‡	179	119	‡‡	‡‡	309	189	‡‡	‡‡
Total—short curriculums	49	49	43	49	31	21	....	....	..	..	..	..	1474	1404	1548	1297	839	922	1229	1078	715	552	362	268	1554	1474	1591	1346
STAR Unit	..	..	..	..	..	..	..	..	..	..	..	..	1383	1255	....	....	1383	1255	....	....	....	....	....	....	1383	1255	....	....
ASTP	..	..	..	..	..	..	..	..	..	..	..	..	1101	....	....	....	1101	....	....	....	....	....	....	....	1101	....	....	....
Grand Total	83	194	201	234	890	1271	1391	1344	152	569	424	393	3996	2724	1673	1433	3627	3452	2517	2429	1494	1306	1172	975	5121	4758	3689	3404
Less duplicates	..	..	..	..	..	..	..	..	..	..	..	..	654	223	309	101	415	143	263	70	239	80	46	31	654	223	309	101
Net Gross Total	83	194	201	234	890	1271	1391	1344	152	569	424	393	3342	2501	1364	1332	3212	3309	2254	2359	1255	1226	1126	944	4467	4535	3380	3303

‡Excludes 84 duplicates this year. *Excludes 229 duplicates this year.

‡‡Counted as specials or graduates during these years.

The curriculums included in the three colleges are: Agriculture: Agricultural Chemistry, Animal Husbandry, Botany and Bacteriology, Dairy Husbandry, Entomology Forestry, General, Horticulture, Poultry Husbandry, and Teacher Training; Liberal Arts: Art Education, General, Home Economics, General Business, Hotel Administration, Music Education, Nursing, Occupational Therapy, Physical Education, Publicity, Secretarial, Social Science, Teacher Training, Pre-Medical; Technology: Architecture, Chemistry, Chemical Engineering, Civil Engineering, Electrical Engineering, and Mechanical Engineering.

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